

**UNITED STATES DISTRICT COURT
DISTRICT OF MAINE**

CITY OF BANGOR,)	
)	
Plaintiff)	
)	
v.)	Civil No. 02-183-B-S
)	
CITIZENS COMMUNICATIONS)	
COMPANY,)	
)	
Defendant & Third)	
Party Plaintiff)	
)	
v.)	
)	
BARRETT PAVING MATERIALS, INC.,)	
et al.,)	
)	
Third Party Defendants.)	

FINDINGS OF FACT & CONCLUSIONS OF LAW

This matter came before the Court for the first phase of a bifurcated trial on Plaintiff City of Bangor’s (“City”) claims under both the Resource Conservation and Recovery Act (“RCRA”), 42 U.S.C. § 6972(a)(1)(B), and the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”), 42 U.S.C. § 9607. Notably, Defendant Citizens Communications Company (“Citizens”) has asserted counterclaims against the City under both CERCLA, 42 U.S.C. § 9613(f)(1), and RCRA, 42 U.S.C. § 6972(a)(1)(B). The Court received evidence over the course of twelve trial days in September 2005. Following these trial days, the Court received additional evidence in the form of exhibits, stipulations and one trial deposition. The Court closed the evidentiary phase of this bench trial on October 6, 2005. The Court then provided the parties with an opportunity to file closing briefs and

proposed findings of fact and conclusions of law. After receiving these submissions and the responses thereto, the Court held a closing oral argument on December 28, 2005.

At issue in this case is an approximately ten acre section of the Penobscot River, known as Dunnett's Cove, which the City alleges is environmentally contaminated with tar. According to the City, the sole source of this tar is a manufactured gas plant that operated in Bangor from approximately 1852 until at least 1963 (the "Bangor MGP"). The City claims that the Bangor MGP disposed of tar-laden wastewater through the Old Stone Sewer, which discharged directly into Dunnett's Cove from approximately the mid-1800s until 1967.

At this first phase trial, the focus was on whether the preponderance of the evidence supported the City's factual allegations regarding the tar deposit in Dunnett's Cove and whether Citizens was, in fact, liable for the alleged tar deposit under either CERCLA or RCRA. In addition to the initial question of liability, the Court's bifurcated trial plan for this matter contemplated that if, in fact, the Court determined that Citizens was liable under CERCLA, it would also resolve the question of equitable allocation as well as the issues raised by Citizens' counterclaims under CERCLA and RCRA.

In accordance with Federal Rule of Civil Procedure 52(a), the Court now makes the following findings of fact and conclusions of law:

I. FINDINGS OF FACT¹

A. The Parties

1. Plaintiff City of Bangor (the “City”)

1. The City is a municipality organized under the laws of the State of Maine.
2. Since 1996, the City has owned certain shoreline property abutting Dunnett’s Cove. This property was formerly owned by the Maine Central Railroad Company and operated as a railyard. (Stipulation # 39 (Docket # 559); Exs. 402, 739.)
3. The City also owns property on the northern end of Dunnett’s Cove on which coal docks once were located. (Ex. 402.)
4. The City’s current ownership interests include the inter-tidal area of Dunnett’s Cove. (See Rec. Decision (Docket # 291) at 14-17; Order Affirming Rec. Decision (Docket # 356).)
5. For the entire period relevant to this case, the City has maintained and operated a system of public drains and sewers for the benefit of the residents and businesses located in the City. (Tr. 1323-24, 1343-63; Ex. 843 at 79-81.)

2. Defendant Citizens Communications Company (“Citizens”)

6. Citizens is a corporation organized under the laws of Delaware with a principal place of business in Stamford, Connecticut.

¹ Throughout the Findings of Fact section, the Court cites to exhibits and portions of the record that support each finding. These citations are by no means exhaustive. The Court’s factual findings reflect the facts that were proven to be more likely true than not, based on the entire record. By including some citation to portions of the record the Court found particularly relevant, the Court does not mean to suggest that these are the only portions of the record that support that factual conclusion. Rather, in many cases, the Court believes that other portions of the record provide similar factual support. However, in the interest of time, the Court has provided only limited citation in many cases.

7. Prior to 2000, Citizens Communications Company was known as Citizens Utilities Company. (Stipulation # 9 (Docket # 559).)

8. In 1948, Citizens Utilities Company merged with the Bangor Gas Company and thereby became the owner of the Bangor MGP. (Stipulation # 8 (Docket # 559).)

9. On January 15, 1963, Citizens sold and transferred the Bangor MGP, along with all of its customers and records, to the North American Utility Construction Corporation and the Maine Utility Gas Company. (Ex. 988; Stipulation # 13 (Docket # 559); Tr. 2354.)

B. Background Findings With Respect to Tar & Polycyclic Aromatic Hydrocarbons (“PAHs”)

10. PAHs are a combination of chemicals found in the environment that in high levels can be hazardous to humans. In this case, PAHs are the constituents of concern that are driving the cleanup of the Dunnett’s Cove site. (Tr. 1069, 1140, 1541, 2224.)

11. PAHs are significant constituents of both pyrogenic and petrogenic materials. (Tr. 960.)

12. Petrogenic is a general term used to describe materials produced naturally in the earth, such as crude oil and coal as well as products made with crude oil or coal. (Tr. 904; 957.)

13. Pyrogenic is a term that refers to materials produced at high temperatures with no oxygen. (Tr. 904.) Coal tar and petroleum are pyrogenic materials.

14. When examined visually, materials such as asphalt, creosote, and coal can be mistaken for tar. (Tr. 1486-91.) In other words, even a trained eye cannot definitively identify a material as petrogenic, pyrogenic or, more specifically, as “tar” based purely on visual inspection. (Tr. 904-05, 1482.)

15. However, petrogenic and pyrogenic materials have substantially different chemical compositions and can be distinguished from one another via chemical analysis. (Tr. 925-29.)

16. Coal tar and petroleum tar are also chemically distinguishable from one another. (Ex. 389 Slide 6.)

17. Both petroleum tar and coal tar are slightly denser than water. However, petroleum tar is less dense than coal tar, which makes it more likely to form a water emulsion. (Tr. 2164-66.)

18. Tar is generally considered a nonaqueous phase liquid (“NAPL”) that does not mix with water. (Tr. 669.)

19. If tar is cooled below 100-140 degrees Fahrenheit, it becomes viscous and sticky and generally stiffens. Once this happens, tar will no longer float. (Tr. 1950-51.)

20. In general, tar contained in a water emulsion is more buoyant than tar not in such an emulsion. The buoyancy of such a tar-water emulsion is increased when there is only a small amount of tar entrained in a large amount of water. (Tr. 2165-66.)

21. Under certain conditions, NAPLs can travel up through the water column to the surface. In the case of a tar NAPL, this process usually involves a bubble of methane gas trapped within the tar NAPL, which usually occurs under warmer conditions. Once the NAPL reaches the surface, the bubble breaks causing a phenomenon referred to as a “bleb” or “blebbing.” What remains of the tar NAPL will then spread across the surface of the water creating a sheen. This combination of blebbing and sheening is a method by which the PAHs found in tar can move from the bottom of the water column to the surface. Once on the surface, the PAH-containing tar can ultimately come to stick to other objects on or in the water. (Tr. 158-67; Exs. 353 – 358.)

22. The term “background” level is used to refer to the level of chemicals, such as PAHs found in a sample of sediment or water that is deemed to be not impacted by contamination.

This “background” level is then considered as the baseline against which contaminated samples are compared.

23. In urban areas, it is common to find PAH levels ranging from 10 to 120 parts per millions (“ppm”) (AKA milligrams per kilogram). Levels within this range are commonly referred to as “urban background” and are thought to be the result of various urban living conditions, such as runoff from streets and parking lots or residue from commonly used household items. (Tr. 463, 2234.)

24. Runoff from paved and sealed surfaces is a major source of PAHs in urban sediments. (Tr. 2055-56.)

25. In this case, a baseline sample taken one mile upstream from Dunnett’s Cove (BGSED-1) was found to have a PAH concentration of 538 parts per million, which actually reflects “substantial PAH contamination” in this upstream area of the Penobscot River. (Tr. 1020.)

26. If the PAH levels in Dunnett’s Cove were within the levels of “urban background,” there would be arguably be no need to cleanup the Cove. However, the sampling completed clearly shows that areas of Dunnett’s Cove have PAH levels that far exceed “urban background” levels. (See, e.g., Ex. 365 (C-56 (17,400 ppm)), Ex. 366 & 366A (C-24-SA (13,180 ppm), C-57 (18,000 ppm), C-58 (25,000 ppm)), Ex. 506 (HARB-3 (109,000 ppm), HARB-4 (97,000 ppm), HARB-21 (162,000 ppm), HASH-7 (541,000 ppm) , HAC-114, S1 (20,200 ppm) , BP-S3 (103,000 ppm) , BP-S4 (110,000 ppm), BP-S5 (132,000 ppm), BP-S7 (120,000 ppm), BP-S9 (115,000 ppm).)

27. According to the geologic principle of superposition, it is generally the case that materials deposited first are found layered beneath materials that are deposited more recently. (Tr. 320-21; 1015.)

C. The History of the Bangor Manufactured Gas Plant (the “Bangor MGP”)

1. The Corporate History and Ownership of the Bangor MGP Site

28. In 1850, Chapter 410 of the Private and Special Laws of Maine granted a charter to the Bangor Gas Light Company under which the company’s capital stock was to be “applied exclusively to the manufacture and distribution of gas for the purpose of lighting the city of Bangor.” (Ex. 45A; Stipulation #6 (Docket # 559).)

29. In 1852, the Bangor Gas Light Company built a manufactured gas plant in Bangor, Maine near the intersection of Main Street and Patten Street (the “Bangor MGP”). (Stipulation # 10 (Docket # 559).)

30. The Bangor Gas Light Company merged with the Penobscot Valley Gas Corporation in 1941 thereby forming a corporation named the Bangor Gas Company. (Stipulation # 7 (Docket # 559).)

31. The Bangor Gas Company was the owner responsible for the operations of the Bangor MGP from 1852 to November 29, 1948. (Stipulation # 11 (Docket # 559).)

32. As a result of the merger of Bangor Gas Company and Citizens Utilities Company on November 29, 1948, Citizens became the owner of the Bangor MGP. Citizens owned the Bangor MGP from November 29, 1948 to January 15, 1963. (Stipulation #s 8 & 12 (Docket # 559).)

33. In early 1963, Citizens sold the entire Bangor MGP, including the business records, facilities, customers and contracts to North American Utility and Maine Utility Gas Company. (Ex. 988; Tr. 2350-52.)

34. From January 15, 1963 until May 17, 1978, the Bangor MGP was owned by Maine Utility Gas Company ("Maine Utility Gas"). (Stipulation # 13 (Docket # 559).)

35. On May 17, 1978, the City acquired what remained of the Bangor MGP and the site on which the Bangor MGP had operated. (Stipulation # 14 (Docket # 559); Tr. 2246.)

36. In or around 1979 or 1980, the City demolished the remaining equipment and fixtures at the site of the Bangor MGP. (Stipulation # 15 (Docket # 559).)

37. In 1996, the Maine DEP certified the completion of the cleanup of the Bangor MGP site and determined that the developers of the site could move forward with plans to develop the site for commercial use. (Ex. 898.) In conjunction with this determination, the City sold a portion of the Bangor MGP site to a development company that constructed a Shaw's Supermarket, which now operates on the site. (Ex. 402; Tr. 2256.)

38. The City continues to own another portion of the Bangor MGP site, which is now operated as a park and commonly known as the Second Street Park. (Ex. 402.)

2. The Operational History

39. Prior to the establishment of electric energy, manufactured gas plants, including the Bangor MGP, were an important utility that provided manufactured gas, which served as an energy source for lighting as well as cooking and heating. (Tr. 664-65.)

40. From approximately 1852 until 1949, the Bangor MGP manufactured gas from coal. (Stipulation # 24 (Docket # 559); Tr. 1947.) This process (hereinafter, the "coal gas process") created coal tar as a by-product.

41. When the Bangor MGP began its operations, it had a single gas holder (“Holder 1”).
(Stipulation # 18 (Docket # 559).)

42. In approximately 1854, a second gas holder (“Holder 2”) was installed at the Bangor MGP. (Stipulation # 19 (Docket # 559).)

43. A third gas holder (“Holder 3”) was later installed in approximately 1897.
(Stipulation # 20 (Docket # 559).)

44. In 1901, a fourth gas holder (“Holder 4”) was installed at the Bangor MGP.
(Stipulation # 21 (Docket # 559).)

45. The process of manufacturing gas also produced tar that many MGPs sold separately for profit. In order to sell tar, the Bangor MGP would have needed to have a place to settle the tar out of the water used in the gas manufacturing process. (Tr. 1954-56.)

46. By approximately 1908, Holder 1 had been converted into a tar well that was used to separate tar from water. (Stipulation # 22 (Docket # 559); Tr. 709-10.)

47. There is no direct evidence that the Bangor MGP had specific equipment devoted to tar separation prior to the conversion of Holder 1 in 1908, although there is evidence of tar sales prior to this date. (Tr. 709-11; 756.)

48. In approximately 1912, a tar separator was installed at the Bangor MGP. (Stipulation # 23 (Docket # 559).)

49. From approximately 1932 until 1949, the Bangor MGP used a carbureted water gas (“CWG”) process to manufacture gas in addition to the coal gas process that had been used since 1852. (Stipulation # 25 (Docket # 559); Tr. 1947.) The CWG process generated petroleum tar. (Tr. 2153.)

50. In 1940, a property valuation of the Bangor Gas Company was performed for the Public Utilities Commission. This valuation listed both “sewer piping” and “purification equipment” among the property found on the Bangor MGP site as of that year. (Ex. 83 at MID00712.)

51. By 1941, there is evidence that the Bangor MGP had a tar dehydrator on site. A tar dehydrator would have been used to break the tar water emulsion that was more commonly created during the CWG process. (Tr. 729.)

52. From approximately 1949 until the end of 1963, the Bangor MGP used an oil gas process to manufacture gas. (Stipulation # 26 (Docket # 559); Tr. 1947.) The oil gas process also generated petroleum tar. (Tr. 2153.)

53. The Bangor MGP’s conversion to the oil gas process involved unique and innovative conversion of existing equipment. This unique conversion brought many engineers to the Bangor MGP in search of understanding and possibly replicating the conversion. (Tr. 698-99.)

54. In the 1950s, Bangor residents complained to the City Council about “unbearable” odors emanating from the Bangor MGP and from their own sewer connections. (Exs. 23, 24 & 25.)

55. In response to these complaints, the local manager of the Bangor MGP said the company was already investigating ways to eliminate the odors, but noted that “the problem of sewer odors is only a problem of the company’s insofar as the gas plant effluent is contributory.” (Ex. 24.)

56. Ultimately, the Citizens Utility Company, which was then running the Bangor MGP, proposed constructing “a special 1,400 foot six-inch sewer from the plant to the Penobscot

River” which would “carry away the waste” that was “thought to be the source of the odor.” Citizens agreed to provide the pipe for this project if the City would provide the installation. (Ex. 25.) There is no evidence that this project was actually undertaken.

57. In 1956, the City Council ordered the City Engineer to investigate and recommend a way to correct “the gas odors that now infiltrate and contaminate the private property connected to [the Davis Brook Sewer] in the vicinity of the Bangor MGP.” (Ex. 92.)

58. The City’s 1956 Annual Report described the installation of “a large running trap” in the Davis Brook Sewer. According to the Report, the trap “was installed in the Citizens Utilities Company yard in order to form a trap above the waste outlet from the gas works operation in an effort to eliminate the odors of the waste from the gas plant penetrating the whole sewer system above it.” The Report noted that there had been “very few complaints about odors from the sewer” after the completion of this project. (Ex. 94 at BGRG0000628; Tr. 1350-52.)

59. In 1964, a stark generator process was installed at the Bangor MGP. Because this process ultimately was not economically efficient, propane air was installed in 1965.

60. One former foreman at the Bangor MGP, “Coke” Jordan, reported to the MDEP that the Bangor MGP did, at one point, have a drain pipe that connected an underground settling tank to the Davis Brook Sewer. According to Mr. Jordan, after the Bangor MGP added a baffled cement wash tank in or around 1951-1952, this drain pipe was disconnected. (Ex. 103.)

61. There is no direct evidence proving the Bangor MGP was connected to the Davis Brook Sewer. (Tr. 463-64, 1360-61, 1374-75, 1378-79.)

3. The Wastewater & the Tar

62. All three of the processes for manufacturing gas at the Bangor MGP (i.e., the coal gas process, the CWG process and the oil gas process) produced wastewater. (Exs. 378; 379; 380; 586; 587 & 588.)

63. Although some MGPs operated without discharging any of their wastewater (Tr. 852; 1957-58), the preponderance of the evidence suggests that for at least some of its operating history, the operations at the Bangor MGP required the discharge of some wastewater. (Tr. 1833 (explaining that each MGP site must be examined “in context”).)

64. Generally, manufactured gas plants recycled at least some of their wastewater. (Tr. 846; 862-63.) In plants utilizing the coal gas process, recycled wastewater was used for quenching² and ammonia recovery. (Tr. 1954-57.) In plants utilizing the CWG process, recycled wastewater was still used for quenching. And, in plants utilizing the oil gas process, hot wastewater was recycled from the tar separator. (Tr. 665-66; Exs. 378; 379; 380; 586; 587 & 588.) Only wastewater that was not recycled would need to be discharged.

65. The process by which hot coal tar is extracted from wastewater did not change significantly from the 1800s to the 1980s. Thus, it stands to reason that the amount of tar actually extracted is not significantly different and one could reasonably use tar extraction figures from the 1980s to estimate tar extraction rates using the same process at an earlier time. (Tr. 1995-96.)

66. The manufacturing process at the Bangor MGP would have produced a relatively small amount of wastewater equivalent to “a household faucet cracked open a little bit” (Shifrin) or about “[0].7 gallons a minute.” (Middleton) (Tr. 856; 1971.)

² “Quenching” is the process by which coke is cooled by pouring water on it. (Tr. 807.) Coke, which is almost pure carbon, is the by-product of coal gasification. (Tr. 688.)

67. Overall, Dr. Shifrin, an expert for the City, estimates that the total wastewater discharge from the Bangor MGP during its entire operational history totaled somewhere between 7 to 70 million gallons. (Tr. 805.)

68. Utilizing a variety of sources, Dr. Shifrin has estimated that the Bangor MGP produced a total of 8 million gallons of tar during its operational history. (Tr. 798-99; Ex. 384.) However, Dr. Shifrin also believes that ninety-nine percent of the tar was ultimately separated from the wastewater leaving only approximately 80,000 gallons of tar (one percent of the eight million gallons) entrained in the wastewater. (Tr. 800; 805-809.)

69. Dr. Middleton, Citizen's expert, broke down his estimates for both wastewater produced and the tar concentration of that wastewater based on the process that was utilized to manufacture gas at the Bangor MGP:

a. For the coal gas process, Dr. Middleton assumed the concentration of tar in the wastewater discharged from the Bangor MGP was 130 milligrams per liter. Based on this estimated concentration and estimated wastewater of 34.2 million gallons, Dr. Middleton concluded that only 3,705 gallons of tar were contained in the wastewater produced by the Bangor MGP during 98 years of operation as a coal gas plant. (Tr. 1959-60; 1994-96.)

b. For the CWG process that was utilized at the Bangor MGP from approximately 1932 until 1948, Dr. Middleton assumed an estimated tar concentration of 268 milligrams per liter. Dr. Middleton testified that the CWG process produced between 300,000 and 1.4 million gallons of wastewater, which would have contained between 40 and 331 gallons of tarry matter. (Tr. 1965-68.)

c. For the oil gas process that was utilized at the Bangor MGP beginning around 1950, Dr. Middleton similarly assumed an estimated tar concentration of 268 milligrams per

liter. He testified that the oil gas process produced somewhere in the range of 1.1 million to 4.3 million gallons of wastewater. Thus, Dr. Middleton estimated that this wastewater contained between 264 and 1056 gallons of tar. (Tr. 1971-72.)

Based on the combination of these figures, Dr. Middleton opined that the total wastewater production at the Bangor MGP would have been less than 40 million gallons and this wastewater would have contained between 304 and 5,092 gallons of tar. (Tr. 1972.)

70. However, these figures do not account for the recycling of wastewater at the Bangor MGP. At trial, Dr. Middleton opined that the total wastewater discharged from the Bangor MGP ranged somewhere from zero to 34.2 million gallons. The low end of this estimate assumes that the Bangor MGP recycled and reused all of its wastewater for quenching or ammonia use. (Tr. 1958.)

71. The evidence presented at trial simply does not support finding that the Bangor MGP recycled 100 percent of its wastewater for its entire operational history. (Tr. 806-07, 1993-94.)

72. Having considered and reviewed the opinions of both Dr. Shifrin and Dr. Middleton as well as all of the other relevant evidence presented, the preponderance of the evidence suggests that the total wastewater discharge from the Bangor MGP for all of its years of operation was at least 7 million gallons (Dr. Shifrin's low estimate) but less than 34.2 million gallons (Dr. Middleton's high estimate).

73. With respect to that amount of tar entrained in this discharged wastewater, the Court finds Dr. Middleton's more detailed and substantiated estimate of the tar entrained in the discharged wastewater to be more reliable and accurate. Thus, in accordance with Dr.

Middelton's expert opinion, the Court finds that the amount of tar discharged in the Bangor MGP's wastewater was likely no more than 5,092 gallons.³

74. The Court's decision to credit Dr. Middleton's estimated quantities of discharged tar is further supported by Dr. Middleton's credible testimony that it is unlikely that large quantities of tar could have actually flowed through the Old Stone Sewer since the cooler underground conditions would have caused large quantities of tar to stiffen and stick to the walls and floor of the sewer. (Tr. 1975-76, 1984.)

75. In light of the fact that the Bangor MGP and all of its records were destroyed long before this litigation was commenced, it is simply not possible to reach a more specific conclusion regarding the exact amount of wastewater discharge or the concentration of tar that was present in that discharge.

76. There remains the question of whether tar entrained in the wastewater discharged from the Bangor MGP via the Old Stone Sewer would have, in fact, come to rest on the floor of Dunnett's Cove. Dr. Middleton opined that the conditions in the Cove might not have been favorable to the settling out of tarry particles suspended in water and that perhaps such tarry particles would have been carried out of Dunnett's Cove with the help of the tides and the fast moving river currents. (Tr. 1990-93.) Although this testimony is credible, it is also more likely true than not that the river conditions at the outfall of the Old Stone Sewer were at various time conducive to allowing tarry particles to settle out and come to rest on the floor of Dunnett's Cove.

³ Suffice it to say that the weight and credibility that the fact finder has given to Dr. Shifrin's opinions in this case is diminished by the fact that Dr. Shifrin's testimony in this Court appeared to contradict the testimony he gave before another court in a different case similarly involving a manufactured gas plant. (Tr. 835-36, 856-58, 868-69; Ex. 1340.)

77. During its operational history, the Bangor MGP sold recaptured tar for profit. There is evidence of recaptured tar being sold as early as 1870. (Tr. 710, 1956.) In fact, during the time that Citizens owned and operated the Bangor MGP, tar sales were an important part of the revenue raised via operation of the Bangor MGP. (Tr. 1448-49.)

78. There is evidence that one of the entities that purchased tar produced at the Bangor MGP was the City. (Tr. 1332.)

79. Based on the preponderance of the circumstantial evidence, it appears that during its operational history the Bangor MGP discharged its tar-laden wastewater into Dunnett's Cove via the Davis Brook Sewer.

4. The Closedown of the Bangor MGP and Remediation of the Site

80. In the mid-to-late 1960s, Maine Utility Gas suspended operations of the Bangor MGP and essentially vacated the premises. The buildings and fixtures that were left behind on the site became generally blighted. Among the problems at the blighted site, an October 1978 inspection noted "remnants of two large oil storage tanks" with one tank appearing to hold about four feet of water and the other appearing to hold oil. (Ex. 929.)

81. In 1978, the City acquired the Bangor MGP site and then oversaw the demolition and rehabilitation of the site. (Tr. 1371, 2246.)

82. During the demolition, a tank containing over 400,000 gallons of tar-entrained wastewater was unexpectedly found at the site. (Tr. 1372-73, 2250.)

83. The City's rehabilitation of the Bangor MGP site did not remove all of the tar and tar-like material from the site. (Tr. 2251.)

84. In 1980, the Maine Department of Environmental Protection ("MDEP") conducted a field investigation of the Bangor MGP site in connection with the City's dismantling of the

remaining fixtures and equipment. This investigation failed to locate any connection between the site and the Davis Brook Sewer. (Tr. 1048; 1374; 2135-37; Exs. 103 & 1026.)

85. The City's clean-up of the Bangor MGP site was done pursuant to a Voluntary Remedial Action Plan ("VRAP") approved by the MDEP.⁴ (Tr. 1832, 2279.) Through its VRAP program, MDEP allows applicants to work cooperatively with MDEP to cleanup contaminated sites on a voluntary basis in exchange for future protection from MDEP enforcement actions. (Tr. 106-07.) See also 38 M.R.S.A. § 343-E.

86. In or around the late 1980s or early 1990s, the City hired a contractor to install a parking lot with catch basins at the Bangor MGP site. (Tr. 2129.)

87. During this parking lot installation, the contractor encountered two areas that appeared contaminated with liquid tar-like materials. In one location, which was supposed to be the location of a catch basin, the contractor encountered tar-like material that appeared to be over 4 feet deep. In the other location, the tar-like material appeared to ooze out of the ground. Although the City was notified of this discovery, no additional cleanup of these observed tar-like materials was done. (Tr. 2130-32; Ex. 1125.)

88. By letter dated August 18, 1995, the EPA announced that it would not list the Bangor MGP on the National Priorities List of sites in need of environmental cleanup. The EPA reached this conclusion after consulting with MDEP regarding the VRAP for the site. Based in part on the representation that residual contaminants at the Bangor MGP site were not affecting drinking water or being actively discharged into the Penobscot River, the EPA

⁴ Because the City has already completed an environmental clean-up of the Bangor MGP site, it stipulated early in this case that it is not seeking any relief for any alleged contamination of property west of Main Street, including the site of the Bangor MGP. (Stipulation (Docket # 158).)

concluded that “residual contaminants present at the [Bangor MGP] site do not pose a significant threat to human health or the environment.” (Ex. 779.)

C. The History and Operation of the Davis Brook Sewer & the Old Stone Sewer

89. Prior to the construction of the Davis Brook Sewer, a stream known as Davis Brook flowed along the present day course of the Davis Brook Sewer. (Tr. 1386-87.)

90. In the early 1800s, residents and businesses likely used Davis Brook as an open sewer. (Tr. 1386-87.)

91. Davis Brook ran through the site on which the Bangor MGP was constructed. (Ex. 54.)

92. In June 1852, the City of Bangor gave conditional approval to the Bangor MGP requiring, in relevant part, that the Bangor Gas Light Company “construct and maintain and use a covered drain, extending from their works to the Penobscot River to below [the] low water mark, of sufficient capacity to carry off all the residuum of filth of said works.” (Ex. 51; Stipulation # 30 (Docket # 559).)

93. Notwithstanding this requirement, in 1860, the Bangor Gas Light Company petitioned the City to construct a public sewer from the vicinity of Bangor Gas Works to the Penobscot River. On July 9, 1860, the City approved the petition deeming it “necessary for public convenience and health.” (Ex. 62 at BGR 5830.)

94. Thereafter, the City contracted for the construction of such a public sewer, which came to be known as the Davis Brook Sewer. (Stipulation # 31 (Docket # 559); Ex. 54.) The lower portion of this sewer line leading into the Penobscot River is also known as “the Old Stone Sewer.”

95. Although the ordinances of the City from the late 1800s contemplated that anyone utilizing a public drain or municipal sewer would be required to pay an assessment (Exs. 1090 & 1093), there is at least one city record suggesting that the Bangor Gas Light Company was not required to pay such an assessment in the late 1800s since the record indicated that Bangor Gas Light Company had “no sewer.” (Ex. 775.)

96. In 1888, the City made some extensive repairs to the Davis Brook Sewer at the Bangor MGP site. The Bangor Gas Company paid half the cost of this repair work. (Ex. 72 at BGRG 0000630.)

97. In a letter dated February 21, 1901, the then-President of the Bangor Gas Light Company complained to the City Council regarding two separate incidents in which the sewer had burst, resulting in water damage to the Bangor MGP property. In this letter, Bangor Gas Light Company claimed that the City had “overtaxed” its “private drain” by connecting “a large territory” of the City to the drain and asked that the City make other arrangements for this sewage rather than “turning it into [the Bangor Gas Light Company’s] private drain.” (Ex. 77 at BGR0000536.)

98. In 1929, the portion of the Davis Brook Sewer that passed beneath the site of the Bangor MGP was relocated to accommodate expansion of the MGP. Bangor Gas Light Company paid a portion of the costs for this relocation. (Stipulation #s 32 & 33 (Docket # 559).)

99. From the mid-1800s into the 1960s, the Davis Brook Sewer, like many other sewers, emptied without treatment into the Penobscot River. (Stipulation # 34 (Docket # 559); Tr. 1349.)

100. Over time, the City connected street drains and additional sewer lines, including the Sanford Brook sewer, into the Old Stone Sewer. Thus, the Old Stone Sewer was used to carry wastewater generated in a portion of the City. (Stipulation # 38 (Docket # 559); Tr. 1342; 1344-49; Ex. 485.)

101. At its height, the Old Stone Sewer serviced a drainage area of approximately 300 acres. (Tr. 1344-45, 1630; Ex. 418D.)

102. Above the area of the Bangor MGP, the Davis Brook Sewer was generally constructed of actual pipes or brick and mortar. However, in the area between Main Street and the outlet into Dunnett's Cove, the floor of the Old Stone Sewer appears to be the natural stream bed of Davis Brook with additional rocks added to the sides and granite slabs on top to create a stone sewer "pipe." (Tr. 1387-88; 1412; Ex. 485.)

103. In 1959 and 1960, the City received two complaint letters from a local attorney, Edward Conquest, regarding the Davis Brook Sewer and Old Stone Sewer. (Exs. 918 & 919.) In these letters, Mr. Conquest complained that these sewers were overtaxed and not being adequately maintained. Both letters noted separate incidents in which the sewers backed up in storms causing flooding and damage to area homes and buildings. (Id.)

104. By the 1960s, the City, like many other communities, began to recognize that sewer systems that simply collected and then discharged that untreated wastewater into nearby bodies of water produced "atrocious odors" and significant adverse impacts on the environment. (Tr. 1357-58; Exs. 1314-15.) The City began revamping its sewer system to address these problems.

105. In 1962, the City redirected a portion of the Davis Brook Sewer thereby terminating the flow in an upper portion of the Old Stone Sewer. (Tr. 1354-55, 1632, 1636-38; Ex.

415D.) Thus, there is a section of the Old Stone Sewer that has not received any flow since 1962.

106. In 1967, as part of the City's plans to end the direct discharge of sewage into the Penobscot River, the City constructed a diversion weir and interceptor pipe in the Old Stone Sewer above the high tide mark. As a result of this project, wastewater was directed to the City's newly constructed wastewater treatment plant. (Stipulation #s 35 & 43 (Docket #s 559 & 564); Tr. 872, 1324, 1346-49.)

107. As a result of this diversion weir construction, wastewater no longer flowed down the section of the Old Stone Sewer that extended from approximately Main Street to Dunnett's Cove, except for limited periods of high flow conditions. (Stipulation #s 36 & 43 (Docket #s 559 & 564); Tr. 1348-49.)

108. In 1992, the City made some additional improvements to the diversion weir. (Tr. 1359-60.)

109. In or around 1999, the City constructed the combined sewer overflow ("CSO") structure. (Tr. 1638, 2271; Ex. 1314.)

110. Today, the outfall of the Old Stone Sewer appears quiet (since there is no longer any discharge) and the immediate outfall appears covered with fairly clean sediment. (Tr. 1518.)

111. Within the Old Stone Sewer there remains an area of tidal influence that stretches from the outfall up approximately 600 feet. (Tr. 1422-23; Exs. 415D & 485.) This area continues to receive inflow from the Penobscot River during periods of high tide.

112. Today, above the area of tidal influence there is no visible tar in the Old Stone Sewer. (Tr. 1405, 1419, 1423-24, 1633-34.)

113. Within the Old Stone Sewer's area of tidal influence there are varying degrees of visible tar-like material. (Tr. 1424-46; Ex. 485.) It is likely that some of this material is the result of tar blebs being carried from the Cove into the Old Stone Sewer during periods of high tide. (Tr. 211; 345-62.)

114. Some of the sampling done in the Old Stone Sewer detected elevated levels of PAHs, including some very high levels of PAHs (e.g., SUB OSS 4 (14,700 ppm), HAOSS-6A (11,100 ppm), HAOSS-270 (14,000 ppm)). (Ex. 506.)

115. Evidence of tar and elevated PAH levels was found beneath the floor of the Sewer above the area of tidal influence. (Tr. 367-374; Ex. 373.) This recent sampling from under the cobbles of the Old Stone Sewer detected both coal tar and petroleum tar. (Tr. 1419; Exs. 368, 390, 506 & 530.)

116. At trial, Citizens attempted to prove that the tar found beneath the cobbles of the Old Stone Sewer was the result of tar being used to cement together the cobblestone floor of the Old Stone Sewer. (Tr. 211-12; Ex. 772.) Although there is evidence that coal tar was, in fact, used as a pitch filler during paving operations in the early 1900s, there is no evidence that coal tar was, in fact, used as a pitch filler in the construction of the Old Stone Sewer. (Id.) Moreover, there was no evidence that petroleum tar was used as pitch filler generally or that it was specifically used in the construction or maintenance of the walls and floor of the Old Stone Sewer.

117. Thus, to the extent that samples taken from above the area of tidal influence within the Old Stone Sewer were ultimately found to contain petroleum tar, the most likely explanation for this petroleum tar is that it was contained in materials that were discharged into the Old Stone Sewer. (Tr. 1001, 2153-55; Exs. 506 & 507.)

118. Similarly, on the record presented, it is more likely that coal tar found in samples taken from the Old Stone Sewer is the result of discharges into the Sewer rather than materials used to construct the sewer.

119. To the extent tar was found beneath the cobbles of the Old Stone Sewer, it is certainly possible and even probable that some of this tar came to rest below the Old Stone Sewer as a result of some other preferential pathway.⁵ Despite this evidence of other preferential pathways that might account for the tar beneath the floor of the Old Stone Sewer, the preponderance of the evidence also supports finding that tar was discharged into and traveled through the Old Stone Sewer. (Tr. 1419, 2229-30.)

120. Although the City has sought to disavow its ownership of the Davis Brook Sewer in the context of this trial, it is clear that the City is the current owner of the Davis Brook Sewer as well as the now defunct Old Stone Sewer. (Tr. 1324; 1380-82, 1395.)

121. Moreover, having considered all of the evidence offered at trial, the Court finds that the City owned relevant portions of the Davis Brook Sewer and Old Stone Sewer during the time that the Bangor MGP discharged tar-laden wastewater into the sewer. (Tr. 1345; Ex. 879, 1090.)

122. In fact, via its various repairs and improvements to the Sewer, the City undoubtedly arranged for the continued discharge of tar-laden wastewater and assisted in the discharge of this tar-laden wastewater into Dunnett's Cove. (Tr. 1324.)

⁵ The term "preferential pathway" is used to describe "the path of least resistance" that, as used in this case, tar could and would travel through. (Tr. 2230.)

D. The Environmental Investigation of the Dunnett's Cove Contamination & the Procedural History of this Litigation

123. In addition to being subjected to seasonal changes, the area of the Penobscot River known as Dunnett's Cove has also been affected by man-made changes over the last 150 years, including dredging as well as the building and subsequent breaching of upstream dams. (Tr. 1866-1868.)

124. A 1980 MDEP investigation documented a "pool of coal tar found in the river" but concluded that the contamination was "separate from [the Bangor MGP] site" because MDEP could find "few links between the site and the river." At that time, the MDEP appeared to suggest that there might have been a connection between the Bangor MGP and the River via a sewer line but they noted that "[t]he sewer line across the street possessed only a low level #2 fuel contamination common to sewer systems." (Tr. 2141; Ex. 899.)

125. A 1980 dive survey of the Dunnett's Cove area observed "hardened . . . tar like substance" on the river bottom that "extended about thirty yards out from shore at the low tide mark." (Ex. 1098; Tr. 2142.) The divers also observed "an area of what appeared to be more recent material" that "was more viscous and had a brighter, glassier shine." (*Id.*) At that time, the divers were unable to locate a source of this contamination, which was reportedly causing "pancake size sheens." (*Id.*)

126. In 1993, the MDEP once again began investigating possible tar contamination in Dunnett's Cove. This investigation included sampling of sediments in the Cove. (Tr. 1038-39.)

127. In 1996, as a result of its investigation of tar tanks once located on the Maine Central Railroad, MDEP concluded that there was no active migration of coal tar from the railroad property into the Penobscot River and that the "the coal tar present in the river is from direct

historical placement, possibly through the use of pipelines present along the embankment of the river.” (Ex. 1041 at DEP0004.)

128. Although the MDEP’s investigation of the Cove contamination proceeded slowly, the City was interested in expediting the cleanup of Dunnett’s Cove as part of its larger plan to redevelop the Bangor waterfront. The City’s plans included potentially building an amphitheater on the shore of Dunnett’s Cove. (Tr. 1364, 1071-72; Exs. 641, 617 & 900.)

129. In June 1999, the City hired RMT, Inc. (“RMT”) to investigate whether the Bangor MGP was the source of the tar contamination in Dunnett’s Cove. (Tr. 46-48; Ex. 670.)

130. The City hired RMT in conjunction with its decision to retain Attorney Laseter, who, in the Fall of 1998, had approached the City about the possibility of bringing claims against previous owners and operators of the Bangor MGP. (Tr. 435-40; Tr. 2298-99.)

131. Based on the evidence presented at trial, it is clear that since the City’s investigation of the Dunnett’s Cove contamination began in 1999, this investigation has focused on tying the Cove contamination to the Bangor MGP and, as a result, did not adequately explore and consider other sources. (Tr. 47, 121-23, 451-58, 471, 502-09, 607-08, 1134-35, 1137-38, 1642-43; Exs. 1256, 1293 & 1336.)

132. In his first visit to Dunnett’s Cove in June 1999, Eugene McLinn, a hydrogeologist from RMT and the City’s lead investigator, saw multiple tar deposits in the Cove area and also noted that there appeared to be multiple drains and outfalls along the shore of the Dunnett’s Cove. Nonetheless, he did not undertake to test each of these outfalls. (Tr. 440-45; Ex. 1285.)

133. In 1999, RMT did conduct initial sediment sampling in the Old Stone Sewer. This initial testing yielded PAH levels that were consistent with urban background. (Tr. 462-63, 489, 1641)

134. In late August or early September 1999, Attorney Laseter telephoned L. Russell Mitten, an attorney for Citizens, and told Attorney Mitten that he represented the City and that the City had claims against Citizens for its earlier operation of the Bangor MGP. At the time, Mitten was not even aware that Citizens had ever had any operations in Maine. (Tr. 2352-54.)

135. The City demolished the Bangor MGP site almost twenty years prior to Citizens receiving any notice of the City's claims. (Tr. 2352-53.)

136. In 2000, the City and RMT asked the MDEP to provide comments on a proposed sampling plan that it intended to use to characterize the size and shape of the tar contamination in Dunnett's Cove. (Tr. 1043-44.)

137. By July 2001, RMT had first delineated the extent of the Dunnett's Cove tar contamination as a large "tar plume" that began at the outfall of the Old Stone Sewer and gradually extended down the Cove. (Tr. 177, 1533-34; Ex. 371 Fig. 5.)

138. In August 2001, the City entered into a Memorandum of Agreement ("MOA") with the MDEP under which the MDEP agreed to reimburse the City for fifty percent of the costs incurred in the continuing investigation of the Dunnett's Cove contamination with the State paying up to \$250,000. (Stipulation # 40 (Docket # 559); Ex. 336.)

139. The MOA was amended in 2003. Pursuant to this amendment, the MDEP agreed to provide an additional \$70,000 of funding for the investigation. (Stipulation # 41 (Docket # 559); Ex. 337.)

140. The MOA under which the State and City jointly funded RMT's investigation of the Dunnett's Cove site did not comply with the usual MDEP procedures for subcontracting an environmental investigation. (Exs. 612 & 613; Tr. 1066-67.) Under this unique funding mechanism, RMT essentially became the MDEP's lead investigator of the Dunnett's Cove site although RMT had been selected by the City and the City planned to use RMT as its main expert witness in this case. (Tr. 478, 1066.)

141. On November 22, 2002, the City commenced the present case against Citizens. (See generally Compl. (Docket # 1).)

142. In 2003, Citizens approached MDEP and asked that its experts, Haley & Aldrich, be allowed to assist RMT with the MDEP investigation of the Dunnett's Cove site. Although Citizens offered to pay for the assistance provided by Haley & Aldrich, MDEP ultimately decided not to retain Haley & Aldrich and allowed RMT to continue the State's investigation of the Dunnett's Cove site alone. (Tr. 1545-47; 2355-56; Ex. 650.)

143. It is clear that the City exerted pressure on MDEP in order to maintain funding and obtain favorable MDEP action on the Dunnett's Cove site, including having the site designated pursuant to Maine's Uncontrolled Hazardous Substance Site Law. (Exs. 637, 656, 658, 664, 665; Tr. 1076-77.)

144. MDEP issued a seven page document, dated March 3, 2004, which designated the tar deposit in Dunnett's Cove as an Uncontrolled Hazardous Substance Site pursuant to Maine's Uncontrolled Hazardous Substance Site Law, 38 M.R.S.A. § 1364(4). (the "Designation") (Ex. 348; Tr. 1081.)

145. The Designation substantially relies upon RMT's investigation of the Dunnett's Cove site and is a result of the City's collaboration with the MDEP. (Exs. 612, 613, 625, 627, 629, 632, 634, 635, 645, 646, 656; 1295).

146. It is unlikely that the MDEP would have issued the Designation when it did absent the City's efforts to expedite MDEP action on the Dunnett's Cove site. (Tr. 1925-30; Exs. 658, 664.)

147. In conducting its own field investigation during discovery, Citizens' experts, Haley & Aldrich, encountered various roadblocks and a general lack of cooperation from the City and its lead investigators, RMT. These roadblocks included the City requiring that Haley & Aldrich field investigators sign liability releases before being allowed to enter the Davis Brook Sewer. (Tr. 1395, 1548-50.) There is no evidence that the City's experts were required to sign similar releases in connection with their field work.

148. In 2004, the City and Citizens agreed to jointly hire an expert, Blasland, Bouck & Lee, Inc. ("BBL"), to determine what would be involved in remedying the hazard posed by the tar deposit and high concentrations of PAHs found in Dunnett's Cove. (Nov. 2, 2004 Joint Mem. at 1-2 (Docket # 417).)

149. This joint effort resulted in the parties' joint submission of a final feasibility study to MDEP, which the MDEP conditionally approved on August 17, 2005. (Stipulation # 42 (Docket # 559); Tr. 1066; Aug. 18, 2005 Joint Status Report (Docket # 509).)

149. The City has incurred approximately \$1,000,000 in documented costs during the course of its investigation of the tar contamination in Dunnett's Cove. (Ex. 128.)⁶

⁶ Exhibit 128 was initially the subject of some debate at trial. (Tr. 952-953, 1004-09.) The parties ultimately reached an agreement on a modified version of this exhibit, which was admitted without objection before the City rested. (Tr. 1096.) The admitted version of Exhibit 128, as modified, consists of a voluminous pile of invoices but contains no calculation of the total cost covered by the

151. Citizens has incurred a total of \$1,331,185.36 in documented costs during the course of its investigation of the tar contamination in Dunnett's Cove. This investigation was undertaken in connection with the discovery done by Citizens during the course of this case. (Ex. 996.)

152. As of July 9, 2005, Blasland, Bouck & Lee, Inc. ("BBL") has also jointly billed Citizens and the City for a total of \$511,127.11. The parties' work with BBL culminated in the submission of the Joint Final Feasibility Study to MDEP in July 2005. Per an agreement between the parties, each side has paid for half of BBL's costs.⁷ (Tr. 2381-82; Ex. 1024A.)

E. The Current Status of Dunnett's Cove

153. Dunnett's Cove is a ten acre area within the Penobscot River. The Penobscot River is a dynamic river with a large tidal range. (Tr. 498, 1866.)

154. Within the area of Dunnett's Cove the average tidal fluctuation is approximately 13 feet. (Tr. 526, 1623.) There is generally a strong downstream flow during the ebb tide and a relatively little upstream flow during peak flood tide. (Ex. 500.)

invoices. Similarly, in its own proposed findings of fact and conclusions of law, the City asks this Court only to find that the amount expended is "approximately \$1,000,000." (Pl.'s Proposed Findings of Fact & Conclusions of Law (Docket # 632) at 2; see also Pl.'s Post-Trial Brief (Docket # 631) at 35 (describing proof of "nearly one million dollars in qualifying response costs").) While the Court makes such a finding above, the City is hereby ORDERED to provide a complete and accurate tabulation of the invoices contained in Exhibit 128 within seven days of the filing of this Order. In the absence of receiving any such tabulation, the Court will cap the City's properly documented expenses at \$1,000,000. To the extent Citizens believes that the City's total costs documented in Exhibit 128 are actually less than \$1,000,000 or they otherwise object to the tabulation provided by the City, Citizens may provide the Court with a proposed Exhibit 128 tabulation within 14 days of the filing of this Order.

⁷ The Court notes that some of the BBL invoices that appear in Exhibit 1024A also appear in the back of Exhibit 128. In order to avoid duplication in any award of costs to the City, the City is hereby further ORDERED to include in its Exhibit 128 tabulation a separate tabulation of those invoices that appear in both Exhibit 1024A and Exhibit 128 thereby allowing the Court to subtract out the BBL expenses and determine the documented costs incurred by the City less any BBL costs.

155. Within Dunnett's Cove, there is a shallow area along the shore that is quiescent, meaning it is not subject to the flow velocity generally found in the main channel of the Penobscot River. However, outside this shallow area, most of Dunnett's Cove actually has a river flow velocity that is similar to that found in the main channel. (Tr. 1862, 1913.)

156. The submerged portions of Dunnett's Cove that comprise the "facility" at issue in this case are owned by the State of Maine. (Stipulation # 4 (Docket # 559); Ex. 348 at ¶5.) See 42 U.S.C. § 9601(9); 12 M.R.S.A. §§ 1801(9) & 1862. The inter-tidal zone portion of Dunnett's Cove that is also part of the facility in this case is owned by the City. See 12 M.R.S.A. § 573.

157. Some of the sediments in Dunnett's Cove contain elevated levels of PAHs. (Stipulation # 1 (Docket # 559).) At least some of these PAHs are from tar. (Stipulation # 2 (Docket # 559).)

158. Samples taken from Dunnett's Cove have been identified as containing coal tar, petroleum tar and, in some cases, both. Asphalt has also been found in some samples. (See, e.g., Ex. A to Docket # 631, Ex. 506.)

159. Since the 1960s, there have been anecdotal reports of tar residue appearing as both sheens and blebs in Dunnett's Cove. (Tr. 640, 1375; Ex. 275 at HAR16788; Ex. 1041 at DEP00003; Ex. 923.)

160. The most active areas of sheening and blebbing are located in the northern end of Dunnett's Cove near the outfall of the Old Stone Sewer. (Tr. 386, 1511-12, 1792.) On the floor of the Cove below the areas on the surface where sheening and blebbing have been regularly observed, there is tar that has a more oil-like appearance. This non-hardened, oil-like tar covers an area that is less than a half acre. (Tr. 1792-93.)

1. The Northern Portion of Dunnett's Cove (aka the Bulkhead Area)

161. In the northern end of Dunnett's Cove, a recently-constructed steel bulkhead intersects with a granite bulkhead. (Tr. 1366; Ex. 444.)

162. This granite bulkhead was at one time the location of the Maine Central Railroad wharf. (Tr. 1505.)

163. The investigations conducted in conjunction with this case have documented significant amounts of tar both on and in-between the granite bulkhead stones. (Tr. 1505-13; 446-49; Ex. 444.) Sampling of the tar found in this location was completed and the samples typed as petroleum tar. (Tr. 1507, 1509, 1512-14.)

164. The steel bulkhead that is now found in the northern end of Dunnett's Cove was constructed in 2001. This steel bulkhead was erected in front of a preexisting timber bulkhead. (Tr. 596, 600; Exs. 444, 900.)

165. The timber bulkhead had essentially failed by 1999. The timbers were highly weathered and there had been subsistence of the soils behind the bulkhead. In fact, for some period of time prior to the completion of the steel bulkhead, it appears that the soils behind the timber bulkhead were sloughing off into the River due to the effect of both the general flow of the river and the ebb and flow of the tides. (Tr. 594-95, 599, 1582; Exs. 689 at BGRS0000151 & 900.)

166. Multiple investigations have documented the existence of tar-like materials in the soils behind this area of the bulkhead. (Exs. 502, 689 & 900.)

167. In fact, two borings that Haley & Aldrich were allowed to install in the area behind the bulkhead documented coal and coal tar in the soils. (Tr. 1597-98; Exs. 506 (HATTN-1 & HATTN 2).) However, these same samples had relatively low levels of PAHs. (Ex. 506.)

168. During a 2005 excavation of an area less than ten feet behind the steel bulkhead, the contractor encountered a layer of material that was later determined to be coal tar. Sampling of this layer detected some of the very highest levels of PAHs found during any of the testing done in connection with this case, including one sample with a PAH concentration of over 200,000 parts per million. (Tr. 596-600, 1598-1600, 2061-62; Exs. 502, 991D.)

169. In this northern portion of the Cove, there is also evidence of tar contamination on the banks of the Cove with some documented “tar flows” that begin above the high tide mark. (Tr. 1515-16.)

170. Within the northern portion of Dunnett’s Cove, one can find examples of almost every kind of tar deposit, including oil-like viscous tar, as well as hard tar deposits that are both flat and raised in the shape of “Hershey’s Kisses.” (Tr. 1564-67; 1569-70.) One can also see areas that do not appear to be impacted by tar contamination. (Tr. 1568 & 1570.)

2. The Outfall of the Old Stone Sewer

171. In many, if not most, of the sediment cores taken from the Old Stone Sewer outfall area within Dunnett’s Cove, there is a pattern of petroleum tar layered over coal tar. (Tr. 321, 2215-16; Ex. 372.) However, there are sediment cores that do not follow this pattern. (Exs. 372 (e.g., HAC-106, HAC-110, HAC-111), 530-D, 506, 507; Tr. 2050-51.)

172. Coal tar was identified as the bottom most tar type in almost ninety percent of the sediment cores taken from the area surrounding the Old Stone Sewer outfall. (Tr. 2215-16; Ex. 372.)

173. Based on the layering found in multiple sediment cores and the principle of superposition, it is more likely than not that coal tar was deposited on the floor of Dunnett’s Cove near the sewer outfall followed by a deposit of petroleum tar. (Tr. 308.)

174. A 2003 field investigation of Dunnett's Cove documented both petroleum tar and asphalt on the shore of Dunnett's Cove above the high tide mark. (Tr. 1519-23, 1668-72; Ex. 506.)

175. Of approximately twenty samples sent for chemical testing by the City, eight to ten samples tested negative for NAPLs. Twelve of the samples tested positive for NAPLs and were found to have high levels of PAHs. (Ex. 389, slide 2; Tr. 991-92.)

176. Sampling of the sediments collected from near the outfall of the Old Stone Sewer contained both coal tar and petroleum tar, but not asphalt. (Tr. 83; 1672-73; 2178.)

177. The tar contamination is thickest near the outfall of the Sewer as well as more continuous as compared to the contamination found downstream in the southern end of Dunnett's Cove. (Tr. 147, 173, 190, 296.)

178. The tar in this area is not hardened as it is in some other areas of the Cove. (Tr. 492.)

3. The Southern Portion of Dunnett's Cove

179. Haley & Aldrich documented four deposits of tar-like material that appeared to be flowing down the riverbanks on Dunnett's Cove in the southern area of the Cove. These flows were located in the intertidal zone and upon further observation exhibited signs of "recent" flow. (Tr. 1525-26.)

180. Near Barrett's Paving, there are isolated puddles of tar on the floor of the southern portion of Dunnett's Cove. (Tr. 383-85, 401, 492.)

181. Divers who observed the tar in this area described puddles of tar that varied from a foot to a couple of feet in diameter and that rose up from the floor of the Cove, in some cases approximately two feet tall. (Tr. 1559-60.)

182. A video of the dive survey in this area showed hardened tar in “Hershey’s Kiss” shapes. (Ex. 413-B; Tr. 1558-60.) Based on the shape and consistency of the “Hershey’s Kiss” deposits, it appears that the material that makes up these deposits was released on the surface and then settled to the bottom. (Tr. 1569-70, 1645.)

183. Because of the hydrodynamics of the Penobscot River generally and Dunnett’s Cove specifically, it is unlikely that tar contamination that originated in the southern end of the Cove could have moved up into the northern end of the Cove. (Tr. 401; 2207.)

4. The Extent of the Tar Contamination in Dunnett’s Cove

184. According to Dr. Shifrin, one of the City’s trial experts, there are approximately 60,000 to 80,000 gallons of tar entrained in the sediments of Dunnett’s Cove. (Tr. 799 & Ex. 382.)

185. In 2000, Eugene McLinn, the City’s lead investigator, estimated that the amount of impacted sediment in Dunnett’s Cove was ranged from “120 to 160,000 cubic yards.” (Tr. 169.)

186. Based on the investigation undertaken by Haley and Aldrich, Wanda Ratliff, Citizen’s expert, concluded that only a quarter to a third of the sediments in Dunnett’s Cove contain tar or tar-like materials. According to Ratliff, the other two-thirds to three-quarters of the Cove are “clean.” (Tr. 1821-22; see also Tr. 1573.)

187. To the extent that the City has sought to delineate the tar contamination as a plume that begins at the outfall of the Old Stone Sewer and extends down the length of the Cove, the evidence submitted at trial does not support finding that the tar contamination falls exclusively within this delineated plume. (Tr. 1855, 1909; Ex. 3 Fig. 4, Exs. 371 & 530.)

188. Rather, there is evidence of tar contamination in Dunnett's Cove that falls outside the plume. (Tr. 383-85, 1536-41, 1577-78; Exs. 405D & 506 (e.g., HARB-21, CB-175, BP-S3, BP-S4, BP-S5, BP-S7, BP-S9); see also Ex. A to Docket # 631.)

189. Likewise, some areas within the delineated plume are not contaminated. (Tr. 1532-35, 1821-22.) In other words, on the current record, it appears that there are areas within the ten acre delineated plume that are not releasing or threatening to release PAHs. Within the ten acre delineated plume, there are some areas that do not appear to pose any substantial and imminent risk to health or the environment.

190. At trial, Mr. McLinn, the City's expert and source of the ten acre tar plume, acknowledged that someone "could have interpreted the data [that he used to draw the tar plume] a different way." (Tr. 475.) In fact, Citizens' designated expert on hydrodynamics, Dr. Swanson, testified that he did interpret the data differently. (Tr. 1854-59, 1909; Exs. 497 & 498D.)

191. There is a reasonable potential for harm to people if they were to come into contact with substantial amounts of the tar contamination found in Dunnett' Cove. However, the only real potential for human contact with the tar contamination arises in the intertidal zone and from the blebbing and sheening of tar. (Tr. 1811-16.)

192. On the record presented, the possibility of any human contact and the risk of endangerment to humans or the environment is remote and de minimus in those areas of the Cove that have hardened tar deposits, which are constantly covered by water or ice and are not subject to blebbing or sheening. (Tr. 1542-43; 1818-19.)

G. The Source of the Contamination in Dunnett's Cove

193. The primary source of the hazardous levels of PAHs in Dunnett's Cove is tar. (Stipulations #s 1-3, 28 (Docket # 559).)

194. Chemical analysis of various samples from Dunnett's Cove tells us that there are clearly elevated levels of PAHs in parts of the Cove and that coal tar and petroleum tar are the primary materials causing these elevated PAH levels.

195. There is no one source that can explain the various types, concentrations and shapes of the PAH contamination in Dunnett's Cove. (Tr. 1854-55, 1859-60, 1878; Ex. 506.) Rather, there are multiple potential sources for these materials. (Tr. 1024-25.) In the sections that follow, the Court makes findings related to the potential sources that were brought to the Court's attention via the evidence presented at the first phase trial.⁸

1. The Bangor MGP

196. Tar was a byproduct of the Bangor MGP throughout its operating life. (Stipulation # 16 (Docket # 559).)

197. Prior to 1860, it was common for many MGP plants to simply discard tar via discharge into a nearby body of water. Even after that date, some small plants, especially ones utilizing the CWG process, discharged tarry wastewater because there was too little tar to economically justify attempts at recovery. (Tr. 2220.)

198. By the early 1900s, it was generally known that wastewater from manufactured gas plants had "an oily and tarry nature" and also had a "tendency . . . to deposit on the shore or banks of a stream in the form of a shiny coating" if it was simply discharged. (Ex. 75 MID00002.) However, it was also thought that this problem could be solved or at least

⁸ Following its earlier rulings, the Court notes that none of these findings are binding on the Third Parties who did not participate in this trial. (See Order (Docket # 450).)

limited via the use of various tar separation techniques. (Id.; see also Ex. 81 at MID 00648-51.)

199. The distance between the Bangor MGP and the outfall of the Old Stone Sewer is approximately 1000 feet. (Tr. 1979.)

200. The layering of coal tar beneath petroleum tar, which was found in most of the sediment cores taken in the area of the outfall of the Old Stone Sewer, is consistent with the historical operations of the Bangor MGP; namely, the Bangor MGP produced coal tar as a byproduct from approximately 1852 until 1949 and produced petroleum tar as a by-product from approximately 1932 until 1963. (Tr. 308.)

201. However, this layering is consistent not only with the type of tar that would have been found in the wastewater discharge of the Bangor MGP, but also with the type of tar that the Bangor MGP might have sold to others for use in the Bangor area. Nonetheless, there is no evidence of other regular historical discharges that could entirely explain the layering of petroleum tar over coal tar in the quantities found at the outfall of the Old Stone Sewer.

202. There was no evidence to support a finding that the Bangor MGP engaged in either intentional or unintentional episodic releases of concentrated or pure tar into Dunnett's Cove via the Old Stone Sewer or any other means. (Tr. 1838.)

203. In fact, the credible evidence suggests that if heavy concentrations of liquid tar had been discharged into the Sewer, these discharges would have cooled, stiffened and stuck to the walls and floor of the Old Stone Sewer. (Tr. 1975.)

204. However, as the Court has already found, there is no visible tar in the areas of the Old Stone Sewer that are above the area of tidal influence. (Tr. 1634.)

205. Eugene McLinn, the City's expert, testified that the absence of visible tar deposits within the Old Stone Sewer was explained by "scouring." (Tr. 558.) While some scouring of the Old Stone Sewer may have occurred, the evidence does not allow a reasonable fact finder to conclude that all sections of the Old Stone Sewer once contained heavy visible tar deposits that have simply been "scoured" into Dunnett's Cove. (Tr. 1835-36, 1984, 1997-99.) This is especially true in light of the undisputed evidence that the areas of the Old Stone Sewer that are above tidal influence have received limited-to-no flow since 1962. (Tr. 1634-35; Ex. 418D.)

206. Moreover, to the extent that scouring is actually responsible for moving tar from the inside of the Old Stone Sewer into Dunnett's Cove, there is no evidence that the Bangor MGP is responsible for this scouring. Rather, as explained later in this order, it would appear that other non-Bangor MGP discharges are responsible for "scouring" tar from the inside of the Old Stone Sewer into Dunnett's Cove.

207. To the extent sections of the tar contamination on the floor of the Cove appear as continuous solid patches of tar, such deposits would not be the result of the settling out of tarry particles from the tar-laden wastewater of the Bangor MGP. Tarry particles would not re-conglomerate into larger continuous patches under the conditions found in Dunnett's Cove. (Tr. 1644-45, 1990-91.)

208. Thus, to the extent that some of the tar contamination in Dunnett's Cove appears as solid patches or "Hershey Kisses" that are consistent with episodic releases or spills, the preponderance of the evidence suggests that the Bangor MGP was not the source of this tar contamination. (Tr. 1838-39, 1843.)

209. Based on all of the above facts, it is more likely than not that during most, if not all, of its operating life, the Bangor MGP discharged tar-laden wastewater into Dunnett's Cove via the Old Stone Sewer. This tar-laden wastewater contributed to the PAH contamination in Dunnett's Cove.

2. The Railyard

210. The Railyard site is east of the Bangor MGP and terminates on the banks of Dunnett's Cove.

211. From approximately 1854 until approximately 1986, this thirty-three acre parcel between the Penobscot River and Main Street was operated as a railyard and freight terminal. For almost all of this time period, the Railyard was owned by the Central Maine Railroad. (Ex. 729A at BAN01526.)

212. Coal was present and used at the Railyard site during its operation. (Tr. 1438; Ex. 729A.)

213. Railyards typically have an abundance of PAHs due to the use of coal and/or diesel fuel. (Tr. 1120-21.)

214. There is some evidence of documented spills at the Railyard, including releases of oil into Dunnett's Cove. (Exs. 414, 1084, 1301; Tr. 1574-76.)

215. A report documenting an investigation and cleanup of a February 1984 spill at the Railyard made reference to an earlier spill in February 1982. (Ex. 1084.)

216. The report on the February 1984 spill cited "negligence, apathy and inappropriate testing of equipment" as the causes of the spill. The report also made reference to the prevalence of "archaic attitudes" toward pollution and spills with the following unattributed

quote: “I remember when we used to have enough fuel runnin’ down that ditch to float a boat.” (Ex. 1084 at DEP00785.)

217. Another 1987 MDEP spill report documents the release of 2,150 gallons of diesel fuel somewhere within the freight yard. According to the report, only 940 gallons were recovered. (Ex. 1301 at MCR01131.)

218. By the early 1990s, the Railyard had essentially ceased operations with the exception of one active main line running through the yard. Around the same time, the City began negotiating with Maine Central Railroad to purchase the Railyard site. In connection with the suspension of operations and the City’s interest in purchasing the site, various environmental investigations of contamination at the site began. (Ex. 729A.)

219. In December 1992, a Phase I Limited Site Assessment was conducted by Environmental Engineering & Geotechnics, Inc. (“EE&G”) at the request of the Maine Central Railroad.⁹ This EE&G Assessment concluded, in relevant part, that the Railyard “contains PAH contaminated soil” and explained that “PAH’s are associated with the gasification of coal, therefore the source of the PAH’s at [the Railyard] is believed to be the historical use of the property as a railroad (since 1854) and the on-site use of coal and coal fired locomotives.” (Ex. 729A at BAN01571.)

220. The 1992 EE&G Assessment also noted the existence of “a few catch basins and manholes” on the Railyard site as well as “several outfall pipes . . . along the river bank.” The Assessment also notes “that surface water from the Railyard “generally flows east into the Penobscot River.” (Ex. 1301 at MCR01134; Tr. 641-43.)

⁹ Copies of the 1992 Phase I Limited Site Assessment were admitted as Exhibit 1301 and as a portion of Exhibit 729A.

221. In February 1993, S.W. Cole Engineering, Inc. conducted a peer review of the EE&G Assessment and noted the need for additional work, including the collection of additional background information. (Ex. 693, Ex. 729A at BAN01529.)

222. A 1995 Update report provided to the City by S.W. Cole documented the removal of three underground storage tanks from the Railyard. One of these tanks, which reportedly still contained oil and contamination of the surrounding soil, was observed. (Ex. 737.)

223. In 1995, another environmental consultant, ERM-New England, Inc., conducted an additional limited assessment and prepared a Voluntary Response Action Plan (VRAP) for the Railyard. (Exs. 34 & 729A.)

224. With respect to the PAH soil contamination, the VRAP proposed a cover system that prevented any direct contact with contaminated soil remaining on the site and also included a detailed Soil Management and Handling Plan to be used during the development work at the site. (Exs. 34 & 729A.) The Soil Management and Handling Plan advised that contractors “assume that all visibly stained soil and cinders are contaminated with petroleum or PAHs.” (Ex. 729A at BAN01639.)

225. The VRAP for the Railyard was submitted to the MDEP in 1996. (Ex. 729A.)

226. Ultimately, under the deal between the City and the Railroad, the City took the lead on arranging for the cleanup of the Railyard’s environmental contamination via implementation of the MDEP-approved VRAP. The City negotiated to have a portion of the purchase price, totaling \$300,000, set aside to cover the cost of this cleanup. (Tr. 2316-17; Exs. 711, 714, 724.)

227. In 1996, as part of the deal under which it purchased the Railyard property, the City released the Maine Central Railroad from any claims the City might have related to

environmental contamination at the Railyard but also indicated that it would not indemnify the Maine Central Railroad for any third party claims related to environmental contamination. (Tr. 2273-74, 2315, 2370-71, 2372-73; Exs. 719, 728, 738.)

228. In light of the various environmental investigations that culminated in the VRAP, when the City was acquiring the Railyard in or around 1996, the City was well aware that there were “environmental problems with the site” and that there was contamination in the abutting area of Dunnett’s Cove. (Tr. 1336-37, 2259, 2306; Exs. 711, 1272 & 1275.) The City was also aware that simple purchase and ownership of the site could expose the City to CERCLA liability “in the event any contamination is more extensive than indicated in the assessment [being done in and around 1992].” (Ex. 1275.)

229. During the remediation of the Railyard site in the late 1990s, the City, for at least one year, used the Railyard site to store snow removed from the City’s streets and sidewalks. (Tr. 643, 2270.)

230. In 1999, the City also constructed the CSO (Combined Sewer Overflow) structure under the Railyard site. This construction project involved the excavation of approximately 10,000 cubic yards of material and the installation of a concrete tank that was approximately 2400 feet long and had the capacity to hold 1.2 million gallons of sewage. (Ex. 1314; Silver Trial Dep. at 4.)

231. Although the contractors hired to install the CSO dug a trench at the Railyard site 16 feet deep, they were never provided with a copy of the VRAP Soil Management and Handling Plan and did not follow the procedures laid out in the plan. In fact, soils that appeared to be contaminated were used as backfill. (Silver Trial Dep. at 5-10; Exs. 985A, 985B, 985D, 985K.)

232. During the excavation, the City's contractors encountered "many shallow pipes" that appeared to be "drain lines for the railroad yard." Most of these pipes were found in the five or six feet closest to the surface. These pipes were excavated without any further investigation. (Silver Trial Dep. at 15-16; Tr. 1048-49.)

233. At least one of the pipes exiting the banks of the Railyard property was tested by Haley & Aldrich and the sample taken from the pipe tested positive for tars. (Tr. 1617-18.)

234. During the construction of the CSO, the City's contractors encountered flooding of the trench from high tides and attempts were made to pump water from the trench directly into the Dunnett's Cove area. (Ex. 1314; Silver Trial Dep. at 10.)

235. In 2002, MDEP certified the completion of the VRAP for the Railyard site. (Tr. 2270.)

236. In 2003, several drums of tar-like materials were located on the Railyard property. Sampling of the material in the drums found evidence of both coal tar mixed with solvents and asphalt with solvents. (Tr. 1612-13.)

237. During its own field investigation of the Dunnett's Cove area in 2003, Haley & Aldrich documented tar flows and visible tar contamination in the intertidal zone that borders the Railyard property. (Tr. 1508-1513, 1519-24.) Samples of the materials observed typed predominantly as petroleum tar and asphalt. (Tr. 1508-13; Ex. 506.)

238. On December 30, 2003, the City and Maine Central Railroad entered into an indemnification agreement under which the City agreed to indemnify Maine Central Railroad for any recovery made by Citizens or any other third party defendant in the case. In exchange for this indemnification, Maine Central Railroad agreed to "make every reasonable effort to cooperate with the City in pursuit of its claim against Citizens." (Ex. 668.)

239. The City believes this later indemnification agreement arose out of the earlier indemnification agreements reached in connection with the City's purchase of the Railyard and reflects the City's judgment that the likelihood of Citizens actually recovering any sums from the Maine Central Railroad was low. (Tr. 2322-25.)

240. The operations of the Railyard, which occurred between 1854 and 1986, are more likely than not a source of the contamination in Dunnett's Cove. (Tr. 1607-09.)

241. The City's use of and construction on the Railyard property since 1996 has likely contributed to the movement of PAH contamination from the Railyard property into Dunnett's Cove.

3. The Seven Pipes

242. During a 1999 visit, RMT field investigator, Meredith Westover, first observed a "vertical pipe entering the sewer" that appeared to have tar "coming from" it.¹⁰ Although she sampled the tar, RMT ultimately did not test that sample. Westover noted that there was actually "sandy" material in the pipe and that the pipe was within the area of tidal influence. (Exs. 985T & 1293; Tr. 455-56, 607-08.)

243. At trial, the undisputed evidence was that within the Old Stone Sewer, approximately 250 feet up from the outfall, there is a recessed brick ceiling with seven pipes hanging from the recessed ceiling. (Tr. 338-39, 560-61, 1414; Ex. 485.) Throughout trial, this area was referred to as "the Seven Pipes."

244. The Seven Pipes are within the portion of the Davis Brook Sewer that is subject to tidal influence during periods of high tide. (Exs. 373 & 415D.)

¹⁰ The Court notes that on the record it is not entirely clear whether this 1999 pipe observation is part of "the Seven Pipes" that were the subject of later investigation and much trial testimony.

245. The outside of the Seven Pipes appear to be encrusted with tar-like material and also covered with a thin film of organic material. (Tr. 1407; Exs. 415D & 485.)

246. To the extent that the inside of these pipes was and could be examined, a softer tar-like material was found inside some of the Seven Pipes. (Tr. 565-66, 1407-08, 1415-16.)

247. Haley & Aldrich, Citizens' experts, first observed the Seven Pipes during a 2003 examination of the sewer. At that time, they took samples of the tar-like materials observed on and in the pipes. During the sampling, "a very strong naphthalene type odor" was noted. (Tr. 1408, 1415.)

248. In 2004, RMT's Eugene McLinn first observed the Seven Pipes in the ceiling of the Old Stone Sewer. At the time, black material encrusting these pipes was observed. (Tr. 338-39, 560-61; Ex. 369.)

249. Even prior to this observation of the Seven Pipes, RMT had discounted the pipes as a source of the tar contamination based on a Sanborn map showing restrooms and a kitchen within the railroad passenger depot located directly above the pipes in or around 1898. (Tr. 363-66, 560-63; Ex. 376, Slide 23.)

250. In contrast, Citizens' aerial photography expert, Dr. Gustafson, believes that a 1954 aerial photograph shows "eight large depressions which contained an extremely dark liquid" above the location of the Seven Pipes. (Tr. 1225, 1230-33, 1430; Exs. 553, 554, 578.)

251. Based on the evidence submitted at trial, it appears more likely than not that there was a railroad passenger depot located above the area of the Seven Pipes in or around 1898. However, it also appears that by 1954 this depot was no longer in this location. Rather, in or around 1954, the location above the Seven Pipes appeared to have only several large dark depressions.

252. There is no evidence as to when the Seven Pipes were installed in the Old Stone Sewer. In any event, the Seven Pipes clearly document a direct connection at one time between the Railyard and the Old Stone Sewer.

253. To the extent that there is, or, at one time, was tar contamination in the area above the Seven Pipes, the pipes would have served as a preferential pathway for that tar to move into the Old Stone Sewer. (Tr. 564-65, 2230.)

254. The sampling of the Seven Pipes suggests that, at one time, the pipes may have either transported a mixture of petroleum and tar or, alternatively, that tar and petroleum unintentionally traveled down through the pipes, perhaps at different times. (Tr. 1437, 1612, 1617, 1978-79, 1841, 2181-82; Ex. 485.)

255. In order for tar to have flowed down the Seven Pipes, the tar would have to be warmed or entrained in warm water. Absent some warming, it is unlikely that tar could have flowed down the Seven Pipes without simply clogging the pipes, especially in the colder winter months. (Tr. 2184-88.)

256. The record contains no further information regarding when and how the Seven Pipes might have been used to discharge materials from the Railyard into the Old Stone Sewer.

257. The area above the Seven Pipes is within the Railyard site, which is now owned by the City. In light of the cleanup work and excavation that has been done at this site, it is unlikely that an above ground connection for the Seven Pipes could be located. (Ex. 503.)

258. The City has not ruled out or adequately investigated the possibility that the Seven Pipes are a source for the tar contamination that once flowed through the Old Stone Sewer and is now found in Dunnett's Cove. (Tr. 566, 2278, 2341-42.)

4. Other non-Bangor MGP Discharges via the Old Stone Sewer

259. The City's own expert acknowledged that it would be difficult to distinguish tar released into the Old Stone Sewer from the Bangor MGP and tar released into the Old Stone Sewer by some other entity that was connected to the Old Stone Sewer. (Tr. 550-53 (playing a portion of the 10/6/2003 Deposition of Eugene McLinn).)

260. There is evidence suggesting that Wood & Bishop Foundry, which was located in the same vicinity as the Bangor MGP, had a private drain that was connected to the Old Stone Sewer. (Tr. 1026, 1029-31; Exs. 740, 756, 757.)

261. The City used tar and asphalt, both materials that contain PAHs, to pave the sidewalks and streets of the City. (Tr. 1527-28, 2053-55; Ex. 790.)

262. It is likely that other discharges into Dunnett's Cove via the Old Stone Sewer, including runoff from paved streets, contained high levels of PAHs and, in some cases, tar. (Tr. 1492-93, 1497, 1527-28.)

263. The City's construction work and re-direction of sewage flow since 1960 could have removed evidence of past releases that contributed to the PAH contamination in Dunnett's Cove. (Tr. 1639.)

264. In short, the preponderance of the evidence supports a finding that other discharges via the Old Stone Sewer, besides those from the Bangor MGP and the Railyard (via the Seven Pipes), contributed to the tar contamination and elevated PAHs that are now found in Dunnett's Cove. However, these other discharges are likely consistent with what the experts referred to as "urban background" and, as such, these discharges more likely than not account for only a relatively small portion of the tar and elevated PAHs that will inevitably be addressed in any cleanup of the site.

5. The Coal Docks and the Fires on the Coal Docks

265. The Coal Docks were once located on the northern tip of Dunnett's Cove in an area that is now generally known as the "Bulkhead Area" because of the intersection of a steel bulkhead and a granite bulkhead. (Tr. 576-77; Exs. 553, 900.)

266. This area served as an area for coal storage and other industrial uses from the late 1800s until the 1980s. (Tr. 1579; Ex. 1113.)

267. There were multiple fires on the coal docks over the years, including a fire in or around 1949 that lasted for many days. (Tr. 1579; Exs. 904, 905 & 906.)

268. Coal fires can be a source of elevated PAHs. (Tr. 1025, 1136 & 1139.)

269. After acquiring the Coal Docks property in or around 1987, the City notified Coal Energy of Maine (the previous owner) that they faced potential CERCLA liability in connection with the cleanup of the site. (Ex. 1113.)

270. A 1995 investigation of this site located on the northern end of Dunnett's Cove was conducted by Haley & Aldrich for Wright-Pierce. This Haley & Aldrich investigation found very limited contamination in the bulkhead area. Of the fifteen test borings taken in connection with this investigation, only one (B9) was found to have an elevated PAH level (170.6 ppm). The investigation attributed this elevated sample to "fill material consisting of ash coal and slag" and suggested that fill material containing PAHs could "be incorporated into the back fill material" at the site as long as it was placed below ground and adequately covered. (Ex. 275 at HAR 16793-95, 16797.)

271. This Haley & Aldrich investigation also documented a "direct hydraulic connection" between the Penobscot River and the groundwater levels at the site and concluded that the

groundwater from the site “flows in an easterly direction toward the Penobscot River.” (Ex. 275 at HAR 16791.)

272. On his first visit in June 1999, McLinn also noted that “by the old coal docks” (in the northern end of the Cove where the steel bulkhead and the granite bulkhead now intersect) there was a “strong petroleum odor” and visible tar that was “3-4 [inches] thick in places, mostly 1 [inch] thick.” (Exs. 986-A, 986-G & 1285; Tr. 447-50, 592-94.) McLinn’s field notes reflect that “much” of this tar was “highly weathered” but that some of the tar appeared to be “fresh.” (Ex. 1285.)

273. Prior to and during the construction of the steel bulkhead, soils from behind the bulkhead were exposed to the Penobscot River and were sloughed off into the River. (Tr. 594-95, 600, 1581-82; Exs. 680, 781 & 900.)

274. Tar was discovered during a recent excavation behind the bulkhead. (Tr. 1131-32; Ex. 502.)

275. Tar released in or around the coal docks/bulkhead area could have migrated into the Dunnett’s Cove area. (Tr. 587-88; 1601-02, 1605, Ex. 448D.) The preponderance of the evidence indicates that the Coal Dock area has likely contributed to the PAH contamination now found in Dunnett’s Cove.

6. The City’s Tar Tanks

276. For some period prior to May 1946, the City maintained two steel storage tanks with related boilers, pumps and other fixtures in the area of High Head. (Tr. 568-70; Exs. 737, 893, 1055, 1065, 1066 & 1067.) At that time, High Head was part of the Maine Central Railroad property and the City leased its tank space from Maine Central Railroad. (Ex. 402.)

277. The City's tanks were used to store tar and "road oil" that was later applied to roads in the Bangor area. (Tr. 1213, 2124-27; Exs. 843, 893, 1041 & 1055.)

278. The 1925 Annual Report of the City of Bangor notes the City as "having the 30,000 gallon storage tanks at High Head, where tar was heated and ready to apply when needed." The same section of the Report noted that "[a]bout 125,000 gallons of Tarvia was applied" to the City's streets during that year.¹¹ (Ex. 843 at 62.)

279. A 1939 aerial photograph also documents the existence of two tanks in the High Head area. (Tr. 1195-96; Ex. 559.)

280. In May 1946, the City applied for and received a building permit to move its tar tanks, which had a storage capacity of 30,000 gallons, to a new location adjacent to the Bacon & Robinson Company wharf near the end of Railroad Street. (Tr. 568-70, 1210-12; Exs. 893, 1065, 1066 & 1067.)

281. As a result of this move, the City's tar tanks were relocated to the north end of Dunnett's Cove, just north of the outlet of the Old Stone Sewer. (Tr. 1208, 1213, 2125; Exs. 556, 557, 558, 1324.)

282. By November 1949, aerial photography shows that one of the tanks may have again been moved just south of the Old Stone Sewer outfall. (Tr. 1192, 1221; Ex. 204.)

283. The available aerial photography from 1954 shows tanks located on the banks of Dunnett's Cove just South of the Old Stone Sewer outfall. (Tr. 1224; Exs. 552 & 553.)

284. In fact, as late as 1978, aerial photography provides evidence of tanks remaining on the shore of Dunnett's Cove. (Tr. 1240-41; Ex. 576D.)

¹¹ Tarvia is a combination of coal tar and petroleum tar designed to penetrate the surface its applied to and then harden quickly. (Tr. 1528.)

285. In the 1990s, the MDEP conducted a limited investigation of the tar tank area. During that investigation, contaminated soils were observed in the area but no further testing was done to determine the precise cause of the contamination. (Tr. 1049-50; Ex. 729A at BAN 01534-35.)

286. In 1996, MDEP investigated a site along the bulkhead that had at one time held one 11,000 gallon tar tank and one 19,000 gallon tar tank. (Ex. 1041.) The soil sampling done in conjunction with this investigation found coal ash and some solid tar but no liquid coal tar. (Id. at DEP00003.)

287. Although the investigation of the tar tank locations has been limited, there is evidence of coal tar contamination in the northern bulkhead area of Dunnett's Cove where the City's tar tanks were once located. (Tr. 154, 531-34, 646-48, 1585-87, 1594-1602, 1836-38, Exs. 371, 734, 735, 1102.)

288. In addition to any unintentional discharges from the City tar tanks in the bulkhead area, the City regularly applied tar products stored in the tanks to the City's roads. (Tr. 1326.)

289. There is evidence that the City purchased and applied tar as a means of maintaining City streets and sidewalks as early as 1873 and continued to do so through the 1970s. (Tr. 1326, 2124, 2126, 2128; Exs. 790, 799, 814, 817, 843, 844, 849, 850, 861, 862, 863, 865, 870, 871, 872, 873, 875, 876, 877, 878 & 879.)

290. In fact, the City's paving operations from 1869 through 1971 actually used more tar than was produced at that Bangor MGP between 1851 and 1963. (Tr. 1603-04; Ex. 449D.)

291. As early as 1929, the City recognized in its annual report that "Tarvia roads" were leading to more "rapid runoff" with rainfall "almost immediately enter[ing] the sewers." (Ex. 850 at 89.)

292. Some of the pavement samples taken from various streets within the City of Bangor were found to contain petroleum tar and some tar mixtures. At least one sample was also found to contain no actual tar. (Tr. 1528, 2053-55.)

293. In short, the City's use and storage of tar is more likely than not a source of some of the PAH contamination now found in Dunnett's Cove. However, the preponderance of the evidence suggests that this particular source alone would amount to an "urban background" level of PAH contamination.

7. Koppers Company, Inc. ("Koppers")

294. From approximately 1955 through approximately 1963, Koppers purchased from Citizens all of the tar that was produced at the Bangor MGP. (Tr. 2350; Ex. 990; Ex. 988 (Schedule B).) During this period of time, the Bangor MGP only produced petroleum tar.

295. Pursuant to the agreement between Koppers and Citizens, Koppers leased land on the site of the Bangor MGP. On this leased property, Koppers constructed between five to seven tanks that had the capacity to hold approximately 147,000 gallons of tar. Koppers held the tar it purchased from Citizens in these tanks. (Exs. 990, 988 at PUC 208.)

296. The tar purchased by Koppers was oil gas tar that contained "no more than two percent water" and was "suitable for the use in the manufacture of road tar." (Ex. 988 at PUC 204-05.)

297. During the period from January 1, 1955 to December 31, 1955, Koppers sold a total of approximately 314,727 gallons of road tar. This road tar was manufactured in Bangor from tar produced at the Bangor MGP, which was sold to Koppers by Citizens. (Ex. 988 at PUC 213.)

298. For some or all of the period that Koppers was purchasing tar from the Bangor MGP, it utilized a pipeline that carried petroleum tar underneath Main Street into a loading area in the Railyard. (Tr. 1610-11; Ex. 1041; Stipulation # 51 (Docket # 601).)

299. During its field investigation, Haley & Aldrich observed a pipe coming from the land bank adjacent to Main Street. Underneath the pipe they documented visible tar-like material that was sampled and identified as petroleum tar containing a high PAH level. (Tr. 1610-11; Exs. 405D1, 405D2 & 506 (HARB-25).)

300. On the current record, Koppers' operations serve as another example of industrial activity on the shores of Dunnett's Cove involving tar and also prove that the Bangor MGP sold tar. However, there is no evidence that supports a finding that Koppers, in particular, is a source of the tar contamination in Dunnett's Cove.

8. Barrett Paving

301. In approximately 1937, Barrett Paving opened a facility at the southern end of Dunnett's Cove. (Ex. 385.)

302. In the course of its operations, Barrett regularly received shipments of tar containing materials that were transferred from barges into Barrett facilities by way of pumping. (Tr. 1622-24 (generally describing the process for offloading tar from a barge).)

303. There is evidence that during the course of receiving shipments, there have been discharges of oil or other tar-containing materials into Dunnett's Cove. (Tr. 1624; Exs. 674, 677, 678, 679, 987.)

304. There is also evidence that Barrett Paving has been exposed to flooding. (Tr. 1622, 1626; Ex. 446.)

305. To the extent that the record suggest that Barrett may be a source of tar deposits in the southern portions of Dunnett's Cove, it is highly unlikely that tar entering the river down by the Barrett facility contributed to the significant tar contamination found in the northern portion of Dunnett's Cove. (Tr. 385, 401, 2207.)

9. Spills into the Cove

306. In the late 1800s, Bangor Harbor was one of the busiest ports in the United States. (Ex. 1141.)

307. A 1905 Report from the United States Engineer's Office notes an increase in vessel traffic into Bangor Harbor "particularly in the coal carrying trade." (Ex. 1137 at UNI0010002.)

308. There is evidence of significant barge traffic in and around the area of Dunnett's Cove through the mid-1950s, including tankers that handled millions of gallons of tar and other materials containing PAHs, including coal. (Tr. 1225; 1602-03; Exs. 553, 870, 1137.)

309. There are documented spills of approximately 35,000 gallons of PAH-containing materials into Dunnett's Cove between 1973-2001. (Ex. 414D; Tr. 1574-76.) However, it is not clear how much of this 35,000 gallons of PAH-containing material was actually tar.

310. There are at least a couple of anecdotal reports from the 1970s of "mystery spills" of a relatively small amounts of fuel or tar-like material. One report noted that tar-like materials "guck[ing]" up items placed in the River had been a recurring problem in recent years. (Exs. 580, 924 & 925.)

311. In addition, there is at least one July 15, 1980 Report from the Coast Guard notifying the City of the discharge of "a harmful quantity of oil." (Ex. 1265.) However, on the record presented, it cannot be determined how much oil was involved in this incident, how close that

discharge was to Dunnett's Cove and what, if any actions, were taken to cleanup or contain this known spill.

312. Visual investigation of the bottom of Dunnett's Cove conducted by divers found some tar deposits that appeared to be in the shape of "Hershey's Kisses." These "Hershey's Kiss" formations were found in both the southern end (near Barrett Paving) and the northern end of Dunnett's Cove. (Tr. 1560-61; 1569-70.)

313. Given the shape, consistency and location of the "Hershey's Kiss" formations, it is very unlikely that discharges via the Old Stone Sewer could be responsible for this portion of the tar contamination in Dunnett's Cove. (Tr. 1839, 1990.) Rather, these formations were probably the result of multiple episodic discharges of tar directly into the Cove. (Tr. 1643-45, 1986-87, 1990)

314. Thus, spills in the Cove during shipping activities is more likely than not a source of the tar contamination and elevated PAH levels now found in Dunnett's Cove.

H. Additional Facts Related to Equitable Allocation

315. Citizens has the financial ability to satisfy any judgment the Court might enter in this case. (Stipulation # 44 (Docket # 568).)

316. The City has worked cooperatively with the MDEP in investigating the tar contamination in Dunnett's Cove since 2000. (Tr. 1047, 1058; Exs. 336 & 337.)

317. Early on in the investigation, Citizens declined an initial invitation to work with MDEP and the City in their investigation of Dunnett's Cove. (Tr. 1059.)

318. As previously noted, in 2003, Citizens did approach MDEP and asked that its experts, Haley & Aldrich, be able to assist RMT with the MDEP investigation of the Dunnett's Cove site. This request was rejected by MDEP. (Tr. 1545-47; 2355-56; Ex. 650.)

319. In 2004, the City and Citizens began to work cooperatively with the MDEP on a remedial design for the Dunnett's Cove area.

II. CONCLUSIONS OF LAW

1. This Court has jurisdiction pursuant to 28 U.S.C. § 1331 because this action seeks relief under two separate federal statutes, namely, the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. § 6972(a)(1)(B), and the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 U.S.C. § 9607.

2. It is the City's burden to prove its claims by a preponderance of the evidence. Similarly, Citizens bears the burden of establishing its counterclaims against the City by a preponderance of the evidence.

A. RCRA

3. The City commenced the present civil action at a time when neither the EPA nor the State of Maine were "diligently proceeding with a remedial action" under RCRA. 42 U.S.C. § 6972(b)(2)(B)(iii). (See July 6, 2004 Rec. Dec. (Docket # 381) at 13-15; Oct. 14, 2004 Order Affirming Rec. Dec. (Docket # 407) at 2.)

4. The contamination in Dunnett's Cove includes materials that qualify as "solid waste" under RCRA, 42 U.S.C. § 6903(27).

5. It is more likely than not that the solid waste contamination in the northern portions of Dunnett's Cove "may present an imminent and substantial endangerment to health [and] the environment." 42 U.S.C. § 6972(a)(1)(B). (See July 6, 2004 Rec. Dec. (Docket # 380) at 7-9; Oct. 14, 2004 Order Affirming Rec. Dec. (Docket # 407) at 2; Ex. 348.) Specifically, the Court concludes that the sheening and blebbing as well as the contamination in the intertidal

zone, which is exposed during periods of low tide, all may present an imminent and substantial endangerment to health or the environment.

6. However, to the extent that solid waste contamination on the floor of Dunnett's Cove is found in some other areas that are constantly covered by water and there is no evidence that these sections of contamination are prone to blebbing and sheening, it is more likely than not that these underwater sections of contamination do not present an imminent and substantial endangerment to health or the environment. In other words, it does not appear there is a potential imminent and substantial endangerment in these areas that must be abated.

7. Under RCRA, a successful party cannot recover damages or compensation for any past cleanup costs. See Meghrig v. KFC Western, Inc., 516 U.S. 479, 485-88 (1996). (See also July 6, 2004 Rec. Dec. (Docket # 381) at 11-13; Oct. 14, 2004 Order Affirming Rec. Dec. (Docket # 407) at 2.) Rather, the available remedy is limited to injunctive relief as well as attorney's fees and costs.

1. The City's RCRA Claim Against Citizens

8. Citizens is liable under RCRA as a past generator of the solid waste now found in the intertidal zone and the northern portion of Dunnett's Cove. See 42 U.S.C. § 6972(a)(1)(B).

9. In light of the City establishing the RCRA liability of Citizens, the Court may enter an injunction requiring Citizens to abate any imminent and substantial endangerment that exists in Dunnett's Cove by taking specific actions.

10. In light of the City establishing the RCRA liability of Citizens, the Court may award the City appropriate costs of litigation, including reasonable attorneys' fees and expert witness fees. See 42 U.S.C. § 6972(e).

2. Citizens' RCRA Counterclaim Against the City

11. The City is liable under RCRA because it contributed to the past handling and disposal of solid waste now found in the intertidal zone and the northern Dunnett's Cove. The City is also a past transporter of the solid waste and an owner of a storage facility of the solid waste. See 42 U.S.C. § 6972(a)(1)(B).

12. In light of Citizens establishing the RCRA liability of the City, the Court may enter an injunction requiring the City to abate any imminent and substantial endangerment that exists in Dunnett's Cove by taking specific actions.

13. In light of Citizens establishing the RCRA liability of the City, the Court may award Citizens appropriate costs of litigation, including reasonable attorneys' fees and expert witness fees. See 42 U.S.C. § 6972(e).

B. CERCLA

14. The PAHs in Dunnett's Cove qualify as "hazardous substances" within the meaning of CERCLA, 42 U.S.C. § 9601(9).

15. The area in Dunnett's Cove in which tar is deposited falls under the CERCLA definition of "facility" in that it is "a site where a hazardous substance has been deposited . . . or otherwise come to be located." 42 U.S.C. § 9601(9).

16. There have been "releases" of tar and PAHs from the tar deposit on the floor of Dunnett's Cove in the form of blebbing and sheening as well as in the movement of tar with the tides. There continues to be a threat of future releases in the same form. 42 U.S.C. §§ 9601(22) & 9607.

17. The City owns an inter-tidal zone portion of the Dunnett's Cove facility and, for that reason, is liable under CERCLA. 42 U.S.C. § 9607(a)(1); 12 M.R.S.A. §§ 1801(9)(B) & 1862. (See March 11, 2004 Rec. Dec. (Docket # 291) at 14-17; May 5, 2004 Order Affirming Rec. Dec. (Docket # 356).)

18. The City also arranged for the disposal of tar into Dunnett's Cove via the Davis Brook Sewer and, thus, is liable under CERCLA. See 42 U.S.C. § 9607(a)(3). (See March 11, 2004 Rec. Dec. (Docket # 291) at 21-14; May 5, 2004 Order Affirming Rec. Dec. (Docket # 356).)

19. The City has not proven by a preponderance of the evidence that it is entitled to a defense under 42 U.S.C. § 9607(b)(3).

20. Citizens has succeeded to the liability of the Bangor Gas Light Company and the Bangor Gas Works. (See July 6, 2004 Rec. Dec. (Docket # 380) at 4-9; Oct. 14, 2004 Order Affirming Rec. Dec. (Docket # 407) at 2.) Because of this successor liability and its own ownership of the Bangor MGP, Citizens is liable under CERCLA as an entity that arranged for the disposal of hazardous substances that it owned or possessed at the Dunnett's Cove facility. See 42 U.S.C. § 9607(a)(3).

21. To the extent the Court hereby finds that the City may pursue an implied right of contribution under Section 107, the Court concludes that the same equitable factors and burden of proof that apply to a contribution action under Section 113(f) would apply to a claim under Section 107 by a responsible party. (See March 11, 2004 Rec. Dec. (Docket # 291) at 12-13 (discussing United Tech. Corp. v. Browning-Ferris Indus., Inc., 33 F.3d 96, 99 (1st Cir. 1994)).)

C. Equitable Allocation under CERCLA

22. In apportioning response costs among responsible parties, CERCLA requires only that the Court use “such equitable factors as the court determines are appropriate.” 42 U.S.C. 9613(f)(1).

23. Under CERCLA, any responsible party seeking partial cost recovery bears the burden of proof with respect to the equitable percentage of response costs that should be allocated to the opposing party as a fellow responsible party. See, e.g., Elementis Chromium L.P. v. Coastal States Petroleum Co., -- F.3d ---, 2006 WL 1453054 at *3-*4 (5th Cir. May 26, 2006) (quoting Centerior Serv. Co. v. Acme Scrap Iron & Metal Corp., 153 F.3d 344, 348 (6th Cir. 1998)); see also Minyard Enters., Inc. v. Se. Chemical & Solvent Co., 184 F.3d 373, 385 (4th Cir. 1999) (discussing the burden of proof in the context of a CERCLA contribution action under section 113(f)).

24. The First Circuit, along with many other circuits, have specifically endorsed consideration of the “Gore factors” in making an equitable allocation under CERCLA. See, e.g., In re Hemingway Transport, Inc., 993 F.2d 915, 921 n.4 (1st Cir. 1993). The Gore factors include:

- (i) the ability of the parties to demonstrate that their contribution to a discharge, release or disposal of a hazardous waste can be distinguished;
- (ii) the amount of the hazardous waste involved;
- (iii) the degree of toxicity of the hazardous waste involved;
- (iv) the degree of involvement by the parties in the generation, transportation, treatment, storage, or disposal of the hazardous waste;
- (v) the degree of care exercised by the parties with respect to the hazardous waste concerned, taking into account the characteristics of such hazardous waste; and

(vi) the degree of cooperation by the parties with Federal, State or local officials to prevent any harm to the public health or the environment.

Id. (quoting Environmental Transp. Sys., Inc. v. ENSCO, Inc., 969 F.2d 503, 508-09 (7th Cir. 1992)).

25. Having considered all of the credible evidence presented at trial and all of the Gore factors, the Court concludes that Citizens' equitable share of responsibility under CERCLA is sixty (60) percent. The Court assigns the remaining equitable share of forty (40) percent to the City.

26. Citizens may be able to shift some portion of its equitable allocation if it is able to establish Bestfoods liability of certain parties that previously operated the Bangor MGP. See United States v. Bestfoods, 524 U.S. 51 (1998). This issue is reserved for later proceedings.

27. The Court's equitable allocation will not only apply to already incurred qualifying response costs, but also to future qualifying response costs that the parties are likely to incur. See 42 U.S.C. § 9613(g)(2). The Court's final equitable allocation will be reduced to a declaratory judgment to guide any future disputes regarding allocation of future qualifying response costs.

III. DISCUSSION

In this case, both sides agree that at least some portions of Dunnett's Cove are contaminated with unacceptable levels of PAHs. For purposes of this first phase trial, their disagreement focuses on two major questions: First, is the Bangor MGP a source of the PAH contamination? Second, is Citizens liable under CERCLA and/or RCRA for the contamination caused by the Bangor MGP?

To the extent that the Court would answer either of these questions in the negative, additional questions regarding the appropriate remedy for the site and the liability of various third parties to Citizens would obviously become moot. Thus, the Court agreed to first address these initial contested questions as well as Citizens' related CERCLA and RCRA counterclaims against the City.¹² Ultimately, the Court now answers both of these questions in the affirmative. As a result, there are many additional issues that will need to be addressed via later proceedings.

While recognizing that the record is subject to possible further development on some issues, the Court provides some explanation for its already announced findings of fact and conclusions of law in the discussion that follows.

A. Is the Bangor MGP a source of the PAH contamination in Dunnett's Cove?

As to this first question, the City has been adamant in its assertion that the contamination in Dunnett's Cove was caused solely by the Bangor MGP. At trial, the evidence showed that this theory regarding the source of the contamination has driven the City from the outset of this case. For its part, Citizens was equally adamant at trial in its suggestions that the contamination of Dunnett's Cove may have occurred without the Bangor MGP having contributed an iota of tar to the Cove and suggested no fewer than eight other sources for the contamination.

¹² In addition to its CERCLA and RCRA counterclaims, Citizens has asserted additional outstanding common law counterclaims against the City. (See Def.'s Answer to Second Am. Compl. & Counterclaim (Docket # 192) at 23-33.) Citizens has not specifically pressed these additional counterclaims in its post-trial submissions or explained how these counterclaims would provide them any relief that is greater than the relief they seek via the CERCLA and RCRA counterclaims. Thus, the Court has treated the additional counterclaims as pleaded in the alternative and does not specifically address them in this Order in light of the relief granted under the statutory counterclaims.

As is usually borne out via the adversarial process, the truth, to the extent it can be determined, is found somewhere between the polar opposite positions advocated by the parties. There is no direct evidence that proves precisely when or how the Bangor MGP discharged tar-laden wastewater into Dunnett's Cove. However, the circumstantial evidence presented establishes that during the history of its operations the Bangor MGP more likely than not did discharge tar-laden wastewater into Dunnett's Cove via the Old Stone Sewer. Nonetheless, Citizens presented credible circumstantial evidence suggesting there are also other sources for the PAH contamination in Dunnett's Cove. Ultimately, the preponderance of this evidence proves that the Bangor MGP was a source of the Dunnett's Cove PAH contamination rather than the source. This conclusion is amply supported by the Court's factual findings.

There is a distinction between resolving the question of whether the Bangor MGP is a source of the contamination in question and the more general inquiry of determining all of the sources for PAH contamination in Dunnett's Cove. In the context of this first phase trial, it was never contemplated that the parties or the Court would attempt to definitively answer the latter, more general inquiry, although it was inevitable that the Court would make some findings that address this question. Despite these related findings, further discussion of the other sources is unnecessary and inappropriate. Thus, the Court will refrain from further discussion of other sources.

The issues surrounding these other sources are not before the Court at this time but could come before the Court during later proceedings. Pursuant to the Court's earlier rulings, statements regarding other sources in all likelihood would not be binding on these later proceedings. (See Order (Docket # 450).) For this reason, the Court focuses the remainder of

its discussion on the legal ramifications of the Court's factual conclusion that the Bangor MGP is one source of the PAH contamination in Dunnett's Cove.

1. Responsibility for the Discharge of the Bangor MGP

To the extent that the Court hereby concludes that the Bangor MGP discharge served as one source of PAH contamination, Citizens certainly bears primary responsibility for this discharge and the amount of tar that was contained in the discharge. However, the City also bears some responsibility for the discharge in light of its role in the Bangor MGP's use of the Old Stone Sewer. This role included not only conditioning its initial approval of the Bangor MGP on the construction and use of a "covered drain," but also assisting in multiple repairs and improvements to the sewer. These actions by the City allowed for the Bangor MGP to both continue its operations and continue its discharge into Dunnett's Cove. Thus, in the context of this first phase trial, the Court finds there are two parties responsible for the PAH contamination caused by tar discharged from the Bangor MGP: (1) Citizens and (2) the City.

Both prior to and during this trial, Citizens alternatively has argued that to the extent the Bangor MGP is responsible for PAH contamination in the Cove, this responsibility should fall on entities that owned the Bangor MGP both before and after Citizens. In short, Citizens attempts to argue that it should only be held responsible for Bangor MGP discharge that occurred between November 1948 and January 1963. However, the Court concludes that Citizens' liability for the Bangor MGP cannot be limited to this period of time.

Turning first to the post-January 1963 time frame, there was some evidence at trial that suggested the Bangor MGP did continue to produce tar for at least some period after Citizens sold the Bangor MGP to Maine Utility Gas. (See, e.g., Tr. 1948.) However, the preponderance of the evidence does not allow the Court to conclude that Maine Utility Gas

discharged any significant amount of tar-laden wastewater into Dunnett's Cove. In fact, the evidence submitted at trial allows a reasonable factfinder to conclude that the discharge of tar-laden wastewater into Dunnett's Cove may have ended prior to January 1963 or shortly thereafter.¹³ In short, the Court finds no support in the record for Citizens' assertions that all or some of the liability for tar discharged from the Bangor MGP falls on entities that owned and operated the Bangor MGP after January 1963.

With respect to the pre-November 1948 time frame, Citizens has requested multiple factual findings pertaining to the ownership of the Bangor MGP prior to November 1948. (See, e.g., Stipulation #s 45-49 (Docket # 600).) The Court considers these requested findings irrelevant in light of both the bifurcated nature of these proceedings and its previously announced legal conclusion that Citizens succeeded to the liability of the corporate entities that previously owned and operated the Bangor MGP via the November 1948 merger. (See July 6, 2004 Rec. Dec. (Docket # 380) at 4-6, 9 & Oct. 14, 2004 Order Affirming Rec. Dec. (Docket # 408).) In light of this successor liability, it is clear that Citizens may be held legally liable under both RCRA and CERCLA for Bangor MGP discharge that occurred prior to November 1948. There remains a possibility that Citizens could establish that other entities

¹³ Assuming for the moment that some discharge of tar-laden wastewater did occur after January 1963, it would appear that the total amount of tar discharged into the Cove during this period of time was relatively minimal. Among the findings that support this conclusion are: (1) the Bangor MGP did not engage in episodic discharges of large amounts of tar into the Old Stone Sewer; (2) the amount of tar discharged by the Bangor MGP totaled approximately 5000 gallons; and (3) the amount of tar-laden wastewater found in storage tanks on the Bangor MGP site during the City's cleanup of the site as well as the lack of any located connection between those tanks and the Old Stone Sewer. In light of these factual findings, it would appear that an entity responsible for any post-January 1963 tar discharged from the Bangor MGP during regular plant operations could fall under the "de micromis exemption" to CERCLA liability. See 42 U.S.C. § 9607(o) (limiting the liability of arrangers responsible for "less than 110 gallons of liquid material or 200 pounds of solid material"). Certainly, Citizens has presented no evidence suggesting that the de micromis exemption would not apply to any successor operator of the Bangor MGP. See 42 U.S.C. § 9607(o)(4) (noting that in contribution actions the party seeking contribution bears the burden of demonstrating that the de micromis exemption does not apply).

are also responsible for the pre-November 1948 operations of the Bangor MGP and thus liable under CERCLA in accordance with United States v. Bestfoods, 524 U.S. 51 (1998). However, this issue of potential Bestfoods liability must be reserved for later proceedings that involve the participation of the entities in question. The effect of the Court's decision to reserve ruling on this issue is discussed in the CERCLA equitable allocation section.

B. Is Citizens liable under either RCRA and/or CERCLA for the contamination caused by the Bangor MGP?

The City seeks to hold Citizens liable for the cleanup of the PAH contamination in Dunnett's Cove under two separate federal statutes, RCRA and CERCLA. While this case serves as an example of the overlap in these two environmental statutes, it also highlights some critical differences in their respective liability schemes and remedies. Thus, the Court proceeds to examine each statute separately considering both the City's claim and Citizens' related counterclaim.

1. RCRA

Via its citizen suit provision, RCRA allows any party with standing to pursue a claim against any person, . . . including any past or present generator, past or present transporter, or past or present owner or operator of a treatment, storage, or disposal facility, who has contributed or who is contributing to the past or present handling, storage, treatment, transportation, or disposal of any solid or hazardous waste which may present an imminent and substantial endangerment to health or the environment.

42 U.S.C. § 6972 (a)(1)(B). The factual dispute between the parties with respect to RCRA focused on whether the Citizens or the City fit within this category of "persons." Based on the above factual findings, this dispute is easily settled. First, as it pertains to the City's RCRA claim against Citizens, it is clear that Citizens is a past owner and operator of a facility

that generated solid waste. Second, as it pertains to Citizens' RCRA counterclaim against the City, it is also clear that the City has contributed to the past handling and disposal of solid waste. These conclusions flow readily from the Court's findings of fact and do not warrant additional discussion.

In the Court's assessment, there are just three issues regarding the pending RCRA claims that do warrant further discussion. First, the City's standing to bring a RCRA claim. Second, the delineation of areas that qualify for cleanup under RCRA's requirement that the waste must possibly present an imminent and substantial endangerment to health or the environment. Third, some preliminary issues regarding the appropriate RCRA remedy, which will guide further proceedings in this case. The Court addresses each of these issues in turn.

a. Standing

At the close of trial, the Court initially raised the question of standing and was especially concerned about the basis for ordering Citizens and/or the City to essentially cleanup property owned by the State of Maine (which is not a party to this particular case). (Tr. 2398-99.) The parties obliged the Court's request for briefing on this standing issue. (See Pl.'s Post Trial Brief (Docket # 631) at 28-29; Def.'s Post Trial Brief (Docket # 634) at 39-40; Pl.'s Reply Brief (Docket # 639) at 13-15; Def.'s Reply Brief (Docket # 640) at 14-15.)

Having reviewed all of the helpful cases cited and discussed in the parties' briefs, the Court is satisfied that the City does, in fact, have standing to pursue a RCRA claim. Specifically, the Court is satisfied that the City has shown that it has an injury in fact, which is fairly traceable to imminent and substantial endangerment caused by PAH contamination in the Cove. Further, a RCRA injunction will redress this injury. See Osediacz v. City of

Cranston, 414 F.3d 136, 139 (1st Cir. 2005) (describing this “tripartite showing” as the “constitutional core of standing”) (citations omitted).

Admittedly, the Court’s standing concerns have been allayed in part by its findings that only particular portions of the Cove may present an imminent and substantial endangerment to health or the environment. As it turns out, the affected portions in some cases fall within the intertidal zone now owned by the City and, in most other cases, abut these City-owned areas. In those areas not currently owned by the City, the evidence suggests that blebbing and sheening may present an imminent and substantial risk that PAH contamination will move onto or otherwise adversely impact portions of the Cove owned by the City. Given this connection between the City and the contamination subject to the RCRA cleanup, there is no doubt that the City has standing to pursue a RCRA claim. See, e.g., Covington v. Jefferson County, 358 F.3d 626, 638-40 (9th Cir. 2004) (concluding that a plaintiff who lived across the street from a landfill had standing to bring a RCRA claim against the operator of the landfill); Maine People’s Alliance v. Holtrachem Manuf. Co., LLC, 211 F. Supp. 2d 237, 252-54 (D. Me. 2002).

b. Imminent & Substantial Endangerment to Health and the Environment

As already noted, the Court has concluded that there are currently sections of tar contamination in Dunnett’s Cove that may present “an imminent and substantial risk to health or the environment” and other sections of the Cove that, while containing some contamination, do not appear to cross this admittedly low threshold.

The Court has generally indicated that the sections of contamination that rise to the level of imminent and substantial endangerment are located in the northern end of the Cove and the intertidal zone. In general, the record shows that other sections of the Cove contain

relatively smaller quantities of hardened tar contamination, which is constantly covered by water and/or ice and is not being released into the water. Simply put, on the current record, the Court cannot find that these relatively smaller patches of hardened, underwater tar may present an imminent and substantial endangerment to health or the environment. Rather, the endangerment is more likely than not “‘remote in time, completely speculative in nature or de minimus in degree.’” Maine People’s Alliance, 211 F. Supp. 2d at 247 (quoting United States v. Reilly Tar & Chem. Corp., 546 F. Supp. 1100, 1109 (D. Minn. 1982)).

Therefore, going into the next phases of this trial, the Court will consider the appropriate RCRA remedy for only those areas of Dunnett’s Cove that may present an imminent and substantial risk to health or the environment.¹⁴ On the current record, the Court concludes that these areas include: (1) affected portions of the intertidal zone and (2) northern sections of Dunnett’s Cove, especially in and around the outfall of the Old Stone Sewer, where there is evidence of ongoing blebbing and sheening.¹⁵ While the Court recognizes that

¹⁴ Citizens has continued to argue that there is no credible evidence to support a finding that any portion of the Cove contains PAH contamination that may present an imminent and substantial endangerment. In furtherance of this argument, Citizens has renewed a request to exclude MDEP’s Designation of Uncontrolled Hazardous Substance Site (Ex. 348) in its post-trial submissions. Suffice it to say, the Court disagrees with this argument and DENIES Citizens’ post-trial request for exclusion of Exhibit 348.

¹⁵ In reaching this conclusion regarding the limited nature of the possible imminent and substantial endangerment caused by the tar contamination in Dunnett’s Cove, the Court recognizes that its decision may appear at odds with the Court’s earlier holding that “the tar slick in Dunnett’s Cove may present an imminent and substantial endangerment to health and the environment.” (Oct. 14, 2004 Order Affirming Rec. Dec. (Docket # 408) at 2.) However, even this earlier ruling implicitly contemplated that the “tar slick” at issue would eventually need to be further delineated. Thus, the conclusion announced above is perhaps best understood as simply providing a more precise definition of the “tar slick” at issue. However, to the extent that the Court’s earlier ruling might have been read to suggest that the Court had definitively held that the entirety of Dunnett’s Cove was covered with a tar slick that may present an imminent and substantial endangerment to health or the environment, the Court would consider that holding clearly erroneous in light of the evidence presented at trial. See Harlow v. Children’s Hospital, 432 F. 3d 50, 55 (1st Cir. 2005) (“‘Under law of the case doctrine, . . . it is not improper for a court to depart from a prior holding if convinced that it is clearly erroneous . . .’”) (quoting Arizona v. California, 460 U.S. 605, 618 (1983)).

ultimately a more precise delineation will be required, the Court reserves that issue for the remedial phase. However, the Court notes that it does not intend to allow the City a second bite at the apple with respect to these RCRA liability issues.¹⁶

c. The Remedy

As the Supreme Court has previously explained, “RCRA is not principally designed to effectuate the cleanup of toxic waste sites.” Meghrig, 516 U.S. at 483. Nonetheless, this case serves as an example in which RCRA can be used to do just that. The primary remedy that RCRA contemplates under its citizen suit provision is “a mandatory injunction, *i.e.*, one that orders a responsible party to ‘take action’ by attending to the cleanup and proper disposal of toxic waste, or a prohibitory injunction, *i.e.*, one that restrains a responsible party from further violating RCRA.” Id. at 484. Any injunction ordered by the Court must be “precise and self-contained.” PMC, Inc. v. Sherwin-Williams Co., 151 F.3d 610, 619 (7th Cir. 1998), *cert. denied*, 525 U.S. 1104 (1999). The Court may not order a party found liable under RCRA to reimburse another entity for past cleanup costs. See Meghrig, 516 U.S. at 485 (“RCRA’s citizen suit provision was not intended to provide a remedy for past cleanup costs.”)

At closing arguments, it was clear that both sides envisioned a mandatory injunction as the applicable RCRA remedy. However, neither side has proposed precise, self-contained language that could be used as an injunctive remedy on their respective RCRA claims. The primary obstacle to determining the language of the mandatory injunction appears to be a

¹⁶ There has already been some suggestion in the record that the contamination in Dunnett’s Cove can be divided into an “active” area and an “inactive” area. (Pl.’s Post Trial Brief (Docket # 631) at 8-9; Dec. 28, 2005 Oral Arg. Transcript at 28-31.) While recognizing that the City has argued that both the active and inactive areas qualify for cleanup under RCRA, the Court does not adopt that argument. Rather, the Court anticipates that its more limited finding will ultimately translate into a RCRA-ordered cleanup of the so-called “active” area.

dispute about whether the RCRA liability in this case is joint and several or otherwise divisible.

Generally, “RCRA liability is joint and several.” Maine People’s Alliance, 211 F. Supp. 2d at 255. The recognized exception to this general rule is if one party can demonstrate that the harm is divisible. See, e.g., Cox v. City of Dallas, 256 F.3d 281, 301 n. 37 (5th Cir. 2001). Admittedly, the case law discussing divisible harms in the context of RCRA is scant. See id. (collecting cases). However, helpful guidance on the issue of joint and several liability and divisible harms can be found in multiple CERCLA cases.¹⁷ See, e.g., United States v. Hercules, 247 F.3d 706, 716-18 (8th Cir. 2001), Acushnet Co. v. Mohasco Corp., 191 F.3d 69, 74-75 (1st Cir. 1999), O’Neil v. Piccillo, 883 F.2d 176, 178 (1st Cir. 1989). As these cases make clear, avoiding joint and several liability is an uphill battle for any defendant in an environmental case who shoulders the burden of proving that the harm is divisible. See O’Neil, 883 F.2d at 178 (adopting the Restatement rule that “damages should be apportioned only if the defendant can demonstrate that the harm is divisible”).

Quite simply, there is no “concrete and specific” evidence on the current record that supports a finding that the imminent and substantial harm described above is somehow divisible between the two parties now before the Court. Hercules, 247 F.3d at 718 (discussing divisibility in the context of a CERCLA claim). In large part, this conclusion flows from the fact that these two parties share responsibility for the same exact tar. Tar that was produced and discharged from the Bangor MGP by Citizens was carried into Dunnett’s Cove by sewers

¹⁷ The First Circuit has specifically endorsed “a uniform approach governing the use of joint and several liability in CERCLA actions.” O’Neil v. Piccillo, 883 F.2d 176, 178 (1st Cir. 1989). The Court can think of no reason why the same uniform approach should not be utilized in RCRA actions raising similar issues of joint and several liability. Thus, the Court relies upon the approach to joint and several liability discussed in these analogous CERCLA cases, although it recognizes that the actual liability on the CERCLA claim in this case is only several, not joint and several.

that were constructed and maintained by the City. During that disposal process, the Bangor MGP's PAHs most likely interacted with some other PAH-containing discharge. This combined discharge is undoubtedly responsible for the bulk of the contamination now found around the outfall of the Old Stone Sewer. It is simply not possible to say that the harm now caused by this contamination, including the blebbing and sheening of tar, is divisible.

In contemplating the issue of divisible harms in the context of RCRA, the Court is mindful that it is ultimately charged with crafting an injunctive remedy that will abate the substantial and imminent endangerment. Even a detailed injunction requiring a particular party to cleanup sixty percent of the contamination at issue would not achieve that goal. In all likelihood, it would simply leave the Cove with a smaller area that presented a substantial and imminent endangerment. Alternatively, if a cleanup of only sixty percent of the contamination would actually abate the imminent and substantial endangerment, then arguably this might be the entire cleanup required by the mandatory RCRA injunction. In short, the Court is hard pressed to see how anything other than joint and several liability will achieve RCRA's goal of abating the imminent and substantial endangerment caused by the PAH contamination in Dunnett's Cove.

At oral argument, counsel for Citizens insisted that it was "the law of the case" that there would be no joint and several liability. (Dec. 28, 2005 Oral Argument Transcript at 84-85.) Having gone back and reviewed the Court's earlier decisions, the Court has only previously held that there would be no joint and several liability imposed on Citizens under the City's CERCLA claims. (See March 11, 2004 Rec. Decs. (Docket #s 291 & 292) & May 5 & 7 2004 Orders Affirming Rec. Decs. (Docket #s 356 & 370).) The Court, however, did not make a similar holding with respect to the RCRA claims. Thus, the Court does not

believe that the law of the case impedes its holding that Citizens and the City are jointly and severally liable under RCRA. In this complicated case, the parties and the Court have understandably focused on resolving the overlapping legal and factual issues that are common to both the RCRA and CERCLA claims. However, RCRA and CERCLA have separate liability schemes and the Court cannot and will not graft CERCLA's imposition of several liability among responsible parties onto RCRA. To the extent the parties assumed that such a grafting was implicit in the Court's previous rulings, they were simply mistaken.

In connection with the RCRA claims presented at this first phase trial, the Court hereby concludes that Citizens and the City are jointly and severally liable to carry out the directives of a mandatory injunction that will abate the substantial and imminent endangerment presented by tar contamination in Dunnett's Cove.¹⁸ The particular actions to be taken and language of the injunction will be determined via later proceedings. Similarly, the Court will later revisit the precise amount of attorney's fees and costs to be awarded to either party under their respective RCRA claims.

¹⁸ While recognizing that the possibility of contribution under RCRA is likely foreclosed under Meghrig, 516 U.S. at 485-88, the Court reserves ruling on whether either party might seek contribution for the costs incurred in complying with the RCRA injunction via some other preserved right. See 42 U.S.C. § 6972(f). During closing argument, there was some suggestion that contribution might be sought under CERCLA. (See Dec. 28, 2005 Oral Arg. Tr. at 126-27 (statements by Attorney Laseter).) Although it would appear that the Court's equitable allocation regarding future qualifying response costs, see supra Conclusion of Law ¶27, could apply to any such costs incurred in complying with the Court's RCRA injunction, neither side has briefed this particular issue in the context of these first phase proceedings. Similarly, Citizen's post-trial submissions, while preserving its common law claims for contribution, fails to provide the Court with the necessary information to determine whether any counterclaim for common law contribution would require an analysis different than the equitable allocation analysis done in connection with its CERCLA counterclaim. (See Def.'s Post Trial Brief (Docket # 634) at 47-48.)

2. CERCLA¹⁹

When the City first brought this case in 2002, CERCLA was undoubtedly the primary cause of action by which it believed Citizens could be held responsible for the cleanup of Dunnett's Cove. Not surprisingly, the City's CERCLA claim has been the subject of extensive pre-trial motion practice. On summary judgment, the Magistrate Judge aptly described two CERCLA "sluiceways" for the City's claims, section 107 and section 113(f), but ruled that the City could not obtain "full recovery" via either section because of its status as a responsible party.²⁰ (See Rec. Dec. (Docket # 291) at 11-13.) Following this summary judgment ruling, the Supreme Court issued its decision in Cooper Industries, Inc. v. Aviall Services, Inc., 543 U.S. 157 (2004) ("Aviall"), and thereby closed the section 113(f) sluiceway to the City. Id. at 168. As a result of these rulings, the City's CERCLA claim has been, at minimum, substantially narrowed.

a. The City's Section 107 Claim

What currently remains of the City's CERCLA claim is an implied right of action under Section 107 that allows the City to potentially recoup from Citizens' an equitable share of the response costs. However, in the aftermath of the Supreme Court's decision in Aviall, Citizens argues that the City as a responsible party has no such implied right of action.

¹⁹ Interested readers are hereby referred to an earlier Recommended Decision discussed the City's CERCLA claims at length and provides helpful background to the discussion that follows. (See Rec. Dec (Docket # 291) at 8-27.) The Court ultimately affirmed that Recommended Decision. (See Order Affirming Rec. Dec. (Docket # 356).)

²⁰ In its CERCLA discussion, the Court utilizes the phrase "responsible party" in lieu of the more commonly used "PRP" or "potentially responsible party." In light of the definitive rulings made by the Court regarding the responsibility of both the City and Citizens, "responsible party" appears to be a more accurate phrase. See also Consolidated Edison Co. v. UGI Utilities, Inc., 423 F.3d 90, 98 n. 8 (2d Cir. 2005) (noting that PRP is a "vague and imprecise" phrase not found within the text of CERCLA).

Stripped to its essence, Citizens argues that Aviall has closed all CERCLA sluiceways to responsible parties who pursue remediation on a voluntary basis. The Court declines to adopt such a broad reading of Aviall.

The majority in Aviall specifically declined to decide the question of whether a responsible party might pursue contribution via a section 107 claim when they are ineligible to pursue a claim under section 113(f). See id. at 168-71. In the Aviall dissent, two Justices agreed that responsible parties did have an implied right of action under section 107 citing the Court's earlier decision in Key Tronic Corp. v. United States, 511 U.S. 809 (1994). See Aviall, 543 U.S. at 171-74 (Ginsburg, J., dissenting). In short, the Supreme Court sent mixed signals on whether section 107 could remain a viable sluiceway for responsible parties.

The impact of Aviall on section 107 claims by responsible parties is a question of first impression within the First Circuit. In its first decision discussing Aviall, the First Circuit recognized the Aviall holding, but did not have an opportunity to address Aviall's impact on CERCLA claims brought under section 107. See Esso Standard Oil Co. v. Rodriguez-Perez, - F.3d ---, 2006 WL 1629298 at *3 (1st Cir. June 14, 2006), (finding that a plaintiff who had not been sued under section 106 or section 107(a) could not maintain a CERCLA contribution claim under section 113(f)(1)). Although the First Circuit has not yet had an opportunity to rule on Aviall's impact on implied rights of action under CERCLA section 107, the First Circuit did discuss this issue pre-Aviall. As the Court noted in its pre-Aviall rulings on summary judgment, the First Circuit previously acknowledged the possibility that "[a responsible party] who spontaneously initiated a cleanup without governmental prodding might be able to pursue an implied right of action under 42 U.S.C. § 9607(c)." United Tech. Corp. v. Browning-Ferris Indus., Inc., 33 F.3d 96, 99 n. 8, *cert. denied*, 513 U.S. 1183 (1995)

(“UTC”). (See Rec. Dec. (Docket # 291) at 13 & n. 13.) In the absence of First Circuit case law interpreting Aviall as foreclosing section 107 claims to responsible parties who do not fall within section 113(f), this Court will not reconsider its summary judgment findings that a responsible party can pursue a CERCLA remedy via an implied right of action under section 107.

In the absence of a clear directive from within the First Circuit, the Court may consider rulings by other federal courts in predicting how the First Circuit will rule on Aviall’s impact. Since the announcement of Aviall, numerous other federal courts have addressed the question of whether responsible parties can pursue claims under section 107. Unfortunately, these courts have not reached a broad consensus. Compare, e.g., Consol. Edison Co. v. UGI Util., Inc., 423 F.3d 90, 100 (2d Cir. 2005) (“Con Ed”), *petition for cert. filed*, 74 U.S.L.W. 3600 (April 14, 2006); Raytheon Aircraft Co. v. United States, -- F. Supp. 2d ---, 2006 WL 1517762 at *7-*13 (D. Kan. May 26, 2006); Seneca Meadows, Inc. v. ECI Liquidating, Inc., -- F. Supp. 2d ---, 2006 WL 1030321 at *4-*6 (W.D.N.Y. 2006); Sunnyside Dev. Corp., LLC v. Opsys U.S. Corp., -- F. Supp. 2d ---, 2006 WL 1128039 at *2 (N.D. Cal. April 27, 2006); Ferguson v. Arcata Redwood Co. LLC, -- F. Supp. 2d ---, 2005 WL 1869445 at *6 (N.D. Cal. Aug. 2, 2005); Viacom, Inc. v. United States, 404 F. Supp. 2d 3, 6-9 (D.D.C. 2005); Metropolitan Water Reclamation Dist. v. Lake River Corp., 365 F. Supp. 2d 913, 915-18 (N.D. Ill. 2005)²¹ and Vine Street LLC v. Keeling, 362 F. Supp. 2d 754, 760-64 (E.D. Tex. 2005) (post-Aviall cases allowing responsible parties to pursue actions under section 107) with R.E. Goodson Constr. Co. Inc. v. International Paper Co., -- F. Supp. 2d ---, 2005 WL

²¹ The Court notes that this district court decision in Metropolitan Water is currently on appeal to the Seventh Circuit (No. 05-3299). In this Seventh Circuit appeal, the Government has filed an amicus brief, which argues that responsible parties may not pursue a cause of action under section 107. (See Copy of Unites States Amicus Brief filed by Citizens (Docket # 653).)

2614927 at *5-*6, *8 (D.S.C. Oct. 13, 2005); Montville Township v. Woodmont Builders, LLC, No. 03-2680DRD, 2005 WL 2000204 at *3 (D.N.J. Aug. 17, 2005) (unreported); Boarhead Farm Agreement Group v. Advanced Env'tl. Tech. Corp., 381 F. Supp. 2d 427, 435 (E.D. Pa. 2005); City of Waukesha v. Viacom Int'l, Inc., 362 F. Supp. 2d 1025 (E.D. Wis. 2005) and Mercury Mall Assocs., Inc., v. Nick's Mkt., Inc., 368 F. Supp. 2d 513, 519-20 (E.D. Va. 2005) (post-Aviall cases ruling that responsible parties foreclosed from pursuing claims under section 113(f) may not pursue claims under section 107).²² Nonetheless, the Court has considered the arguments found in all of the cases just cited.

As the City has argued and many of the decisions just cited note, most, if not all, of the decisions finding that Aviall has closed the section 107 sluiceway for responsible parties found themselves bound by pre-Aviall case law in their circuit declaring that responsible parties could only pursue contribution via section 113(f). Courts that were not limited by such precedent have generally found that responsible parties that do not meet the requirements for a claim under section 113(f) may seek relief via section 107. This Court fits within this latter camp and thus similarly finds that the City may pursue a claim under section 107.

In reaching this conclusion, the Court has also independently examined the language of section 107, which states in relevant part that a responsible party "shall be liable for . . . any other necessary costs of response incurred by any other person." 42 U.S.C. § 9607(a)(4)(B). Quite simply, nothing in this text clearly forecloses a responsible party from being considered

²² The Court is aware of other district court cases within the Second Circuit that ruled that responsible parties could not pursue claims under Section 107. See, e.g., Kaladish v. Uniroyal Holding, Inc., No. Civ. A. 300CV854CFD, 2005 WL 2001174 (D. Conn. Aug. 9, 2005) (unreported); Cadlerock Props. Joint Venture, L.P., Schilberg, No. 3:01CV896(MRK), 2005 WL 1683494 (D. Conn. July 19, 2005) (unreported); Benderson Dev. Co., Inc. v. Neumade Prods. Corp., No. 980CV00241SR, 2005 WL 1397013 (W.D.N.Y. 2005) (unreported); Elementis Chems., Inc., T.H. Agric & Nutrition, L.L.C., 373 F. Supp. 2d 257 (S.D.N.Y. 2005). The Court considers these earlier cases superceded by the Second Circuit's later decision in Con Ed. See Raytheon, 2006 WL 1517762 at *9 n.8 (reaching same conclusion regarding the effect of Con Ed).

“any other person.” Moreover, allowing responsible parties to seek contribution from “any other person” via section 107 appears to be in line with the explicit savings clause found in section 113(f)(1). See Aviall, 543 U.S. at 166-67 (“The sole function of the [savings clause] is to clarify that §113(f)(1) does nothing to ‘diminish’ any cause(s) of action for contribution that may exist independently of §113(f)(1). In other words, the sentence rebuts any presumption that the express right of contribution provided by the enabling clause is the exclusive cause of action for contribution available to a [responsible party].”)

In addition to the text, CERCLA’s purpose also supports the conclusion that responsible parties can pursue a section 107 claim. But see Aviall, 543 U.S. at 167 (noting that there is no need to consult the purpose of a statute when the text is clear). If the section 107 sluiceway is closed, CERCLA would ensure contribution for responsible parties who are *forced* to incur remediation costs beyond their pro rata share (via section 113(f)). In contrast, responsible parties who *voluntarily* incur remediation costs in excess of their pro rata share would have no CERCLA remedy. The Court sees no basis for treating responsible parties so differently based solely on what prompted them to incur remediation costs. Moreover, given the broad categories of entities that are considered responsible parties under CERCLA, it is hard to imagine many cases in which purely “innocent parties” would ever be motivated to initiate an action under section 107. Certainly, in the context of this case, it does not appear that any governmental entity or innocent party is interested in bringing a CERCLA action to cleanup Dunnett’s Cove despite the fact that the contamination in the Cove is clearly visible — even to an untrained eye.

Ultimately, interpreting section 107 to forbid current owners and other responsible parties from seeking reimbursement for voluntary cleanups would encourage these parties to

wait for a governmental entity or an innocent party to take decisive action before initiating any investigation or remediation. Many courts that have addressed the issue of section 107 actions by responsible parties after Aviall have noted that this effect is contrary to CERCLA's clear goals of encouraging voluntary remediations. See, e.g., Con Ed, 423 F.3d at 100. In the context of this case, the City has investigated the tar contamination and ironically attempted to force the State of Maine to focus its limited resources on remediation of Dunnett's Cove. The City has undertaken these actions in partial reliance on its ability to pursue a CERCLA claim. Thus, changing the interpretation of CERCLA in a way that generally discourages voluntary remediations and penalizes the City's reliance of CERCLA strikes this Court as a move that is neither required by the clear language of the text, nor in line with CERCLA's purpose.

Nonetheless, it may well turn out that the First Circuit or the Supreme Court will ultimately resolve the issue by declaring that responsible parties who engage in voluntary cleanups have no remedy under CERCLA. Even if this happens and Citizens' argument in this regard is proven to be correct, in the Court's assessment, this outcome on the CERCLA claim would be a somewhat of a Pyrrhic victory for Citizens.²³ Although CERCLA does appear to be the sole basis for the parties to recoup already incurred costs for investigating the contamination in Dunnett's Cove, RCRA, with its mandatory injunctive remedy, will likely drive the cleanup of the Cove regardless of the impact of Aviall on the CERCLA claims.

Having decided as a matter of law that the City may pursue an implied right of action under section 107, the next question is the extent of the City's CERCLA remedy. First, it

²³ One might argue that a finding that the City had no right to proceed under CERCLA section 107 would sound the death knell for any section 113(f)(1) claim by Citizens. It would certainly seem problematic to use an improperly pressed section 107 claim to satisfy section 113(f)(1)'s prerequisite of "during or following any civil action under [section 106] or [section 107(a)]." See 42 U.S.C. § 9613(f)(1).

appears any CERCLA remedy would cover a larger area than is covered by RCRA. CERCLA speaks in terms of “facilities” in which hazardous waste is deposited or located. In this case, it would appear that the entirety of Dunnett’s Cove can be considered a CERCLA “facility.” (See March 11, 2004 Rec. Dec. (Docket # 291) at 15-16 (describing “the facility issue” as “puzzling”).) Thus, what will ultimately limit the costs that the City may recoup is not the “facility” but CERCLA’s limitation on recovering only “necessary costs of response . . . consistent with the national contingency plan.” 42 U.S.C. § 9607. To date, neither party has disputed that the costs incurred by both sides fit within this CERCLA limitation. To the extent that the parties end up with such a dispute regarding future necessary costs of response, the Court would address those disputes as needed during later proceedings. See, e.g., United States v. Davis, 261 F.3d 1, 29 n. 20 (1st Cir. 2001) (noting that the district court in that case had similarly reserved this issue for later ruling).

As already noted, the extent of the City’s CERCLA remedy is also limited by its status as a responsible party.²⁴ On this basis, the City is precluded from full recovery of its CERCLA response costs and may only recover Citizens’ equitable share of the remediation costs from Citizens. In theory, the City bears the burden of proving Citizens’ equitable share and Citizens conversely bears the burden on proving the City’s equitable share in connection

²⁴ By way of distinguishing a claim under section 107 from a claim under section 113(f) post-Aviall, one might argue that section 113(f)’s more forgiving equitable allocation scheme should only be applied to those responsible parties who are eligible to seek contribution under section 113(f). Such a rule would leave responsible parties who can only pursue claims under section 107 with a joint and several liability scheme, similar to the RCRA scheme already discussed. See supra Part III. B.1.c. This interpretation would appear to be in line with the First Circuit’s pre-Aviall description of section 107 and section 113(f) as “distinct, non-overlapping anodynes.” UTC, 33 F.3d. at 103. However, absent post-Aviall clarification from the First Circuit, the Court believes it is premature to limit CERCLA’s equitable allocation to only those responsible parties with claims under section 113(f). In any event, this Court would be required to perform an equitable allocation with respect to Citizens’ claim under section 113(f). Moreover, the Court considers its previously rulings that an equitable allocation would be applied to the City’s CERCLA claim to be law of the case. See Harlow, 423 F.3d at 55 (discussing law of the case doctrine). (See also March 11, 2004 Rec. Dec. (Docket # 291) at 11-13.)

with its CERCLA counterclaim under section 113(f). However, in the Court's assessment, these alternating burdens of proof do not affect the Court's equitable allocation in this case. In the following section, the Court describes how it arrived at the equitable allocation between the two parties.

b. Equitable Allocation

In making an equitable allocation, the Court must initially decide whether to make an equitable allocation either among the named parties now before the Court or among all parties. See Am. Cyanamid Co. v. Capuno, 381 F.3d 6, 19 (1st Cir. 2004). Having spent a great deal of time contemplating both options, the Court has concluded that the only fair and viable allocation that can be done at this point is between the two parties now before the Court. If the Court were ultimately presented with each and every entity that could be responsible for some amount of tar and/or PAHs now found in the Cove, the complicated process of weeding out multiple "de minimus polluters" and then making an equitable allocation among all remaining parties would involve a complicated trial involving many months, if not years. See id.; Acushnet, 191 F.3d at 77-78.

In its Conclusions of Law, the Court listed the various "Gore factors" that may be considered and the Court will not list them again here. However, the Court's consideration of the various equitable allocation factors breaks down as follows:

(1) As the Court similarly concluded in connection with the RCRA claims, the various contributions to the PAH contamination in Dunnett's Cove are not readily distinguished on the current record. However, to the extent it can be distinguished, the Bangor MGP's contribution to the tar contamination in the Cove consists of approximately

5,000 gallons of tar, all or most of which came to rest on the floor of Dunnett's Cove in and around the outfall of the Old Stone Sewer.

(2) The amount of hazardous waste involved, as well as the toxicity of that waste, are issues that are likely to be flushed out during the remedial phase of this matter. However, on the current record, the Court concludes that approximately half of Dunnett's Cove is impacted by PAH contamination and that the area most impacted is in the northern section of the Cove where blebbing and sheening has been frequently observed and reported.

(3) Citizens bears primary responsibility for the contribution of the Bangor MGP. However, to the extent it owned and operated the Old Stone Sewer, the City also bears some responsibility for the Bangor MGP's discharge.

(4) To the extent that tar contamination in the northern section of Dunnett's Cove can also be traced to other sources, the City bears the responsibility for those other sources at this time. First, the City is the present owner of most of the land that once housed these other sources. Second, the City's more recent use of that land more likely than not has contributed to the Dunnett's Cove tar contamination. More specifically, at various times, the City has failed to ensure that tar contamination, which was known to exist in and around the area, did not move into the Cove. Third, to the extent the City, as a responsible party under CERCLA, chose to pursue contribution from only one responsible party, it generally must continue to bear the responsibility for any "orphan shares" that might be attributable to other responsible parties.

(5) Finally, to the extent that either the City or Citizens deserve "credit" for their cooperation with other agencies to prevent any harm to public health or the environment, the Court finds that the City deserves more credit than Citizens. This finding is supported by the

fact that the City has proactively investigated the Dunnett's Cove site for a longer period of time and, in fact, proactively sought out the cooperation of MDEP. In addition, the Court gives some weight to the fact that the City proactively remediated the Bangor MGP site, which is the source of the contamination at issue, without any assistance from Citizens.

In assigning Citizens an equitable share, the Court has focused on limiting Citizens' share to that percentage of the cleanup that is required as a result of the Bangor MGP operations. The Court's best assessment yields a sixty percent share that can be attributed to Citizens. Thus, the City is left with a forty percent share. A relatively small portion of the City's share, five percent or less, reflects the City's role in contributing to the Bangor MGP discharge via ownership and operation of the Davis Brook and Old Stone Sewers. Another slightly greater portion of the forty percent share reflects the equitable share that might be assigned to other potentially responsible parties that the City has chosen not to pursue and for whom the City does not serve (and has not served) as a subsequent owner of the property. Finally, the bulk of the City's forty percent share reflects its role as current owner of other properties that have contributed to the contamination. Certainly, the evidence suggests that previous owners of these properties may have played a more active role in creating the PAH contamination that is now in the Cove. However, the City has chosen not to pursue these previous owners. Even if the City had pursued these previous owners, the City would likely still be assigned some equitable share for these properties (and possibly all of the equitable share) both because of its current role as owner and because of its subsequent use and construction on these properties.

The Court's equitable allocation applies not only to the response costs already incurred by the parties, but also serves as the allocation that will be applied to qualifying

response costs likely to be incurred by either side in the future. CERCLA specifically contemplates that the Court will enter a declaratory judgment that will be binding on subsequent actions to recover future response costs. See 42 U.S.C. § 9613(g)(2); see also Davis, 261 F.3d at 46-49 (discussing the entry of declaratory judgments pursuant to 42 U.S.C. § 9613(g)(2)). There is the potential, described briefly in the next section, that the ultimate declaratory judgment may add some additional parties to the CERCLA equitable allocation. However, absent such further developments, the Court's judgment will be that Citizens shall pay sixty percent and the City shall pay forty percent of response costs that are incurred in compliance with CERCLA.

c. Bestfoods Liability

One lingering CERCLA issue must be addressed in connection with the Court's equitable allocation: potential Bestfoods liability. The Court believes the current record justifies a conclusion that Citizens may be held equitably responsible under CERCLA for Bangor MGP discharge that occurred prior to November 1948. However, the Court cannot foreclose the possibility that Citizens may be able to establish that other entities are also responsible for the pre-November 1948 operations of the Bangor MGP and, thus, liable under CERCLA in accordance with United States v. Bestfoods, 524 U.S. 51 (1998).

Admittedly, the Court has often suggested that the issue of third party liability to Citizens might never be reached since Citizens would only be responsible for its equitable share. (See, e.g., Order (Docket # 450).). In any event, to the extent the possible liability of third parties was contemplated, the Court and the parties envisioned that this issue would be resolved via a separate phase of trial. On the more fully developed record now before the Court, it is clear that Citizens is entitled to argue that at least some portion of its equitable

allocation can be shifted to UGI Utilities or CenterPoint Energy Resources.²⁵ Of course, the first hurdle that Citizens would have to clear is establishing liability of one or both of these third party defendants in accordance with United States v. Bestfoods, 524 U.S. 51 (1998). If Citizens were to clear that hurdle, the Court could then take up the issue of possibly assigning an equitable share to each liable parent corporation. However, to the extent that Citizens cannot clear this “Bestfoods hurdle,” the Court would continue to assign Citizens the entire sixty percent equitable share attributable to the operation of the Bangor MGP.

To be clear, although the Court is now opening the door of potential third party liability to Citizens, it is doing so on a limited basis. The Court has not assigned to Citizens any “orphan shares” that are attributable to sources other than the Bangor MGP. Citizens’ equitable allocation reflects the responsibility for the Bangor MGP discharge (minus a relatively small share of the responsibility that the Court believes falls to the City based on its ownership and operation of the Davis Brook and Old Stone Sewers). Thus, the only third parties that might be liable to Citizens are those that are proven to share in the responsibility of the operation of the Bangor MGP some time prior to 1963.

IV. CONCLUSION

In light of the above findings regarding liability, the Court hereby finds that Citizens is liable under Counts I, II and XVII of the City’s Second Amended Complaint. The Court also finds that the City is liable under Counts I, II and VII of Citizens’ Counterclaim. The Court retains jurisdiction over this matter in order to determine the appropriate remedy. Thus, no final judgment will be entered as this time.

²⁵ These are the two entities Citizens has alleged might be responsible for the operation of the Bangor MGP prior to 1948. (See Citizens’ Third Party Compl. against UGI Utilities (Docket # 24) and Citizens’ Third Party Compl. against Centerpoint Energy Resources Corp. (Docket # 27).)

The parties are to comply with the orders found in footnotes six and seven in accordance with the deadlines found therein.

This matter must now proceed to a second phase trial. Pursuant to the Court's previous orders and the parties' previous case management proposals, the second phase trial had planned to address the appropriate remedy to be implemented in light of the above rulings. The Court specifically contemplates that this second phase trial would serve as the basis for determining the precise language included in the RCRA injunction.

However, it may be that the parties wish to reconsider the order of events in light of the above rulings. With respect to the next step in this litigation, the Court is willing to consider the parties' proposals for efficient resolution of this matter. Thus, the City and Citizens (either jointly or separately) shall propose a scheduling/case management order that they believe will best move this case forward towards final resolution. These submissions shall be filed on or before July 27, 2006. After receiving these proposals, the Court will determine whether it will also entertain similar proposals from the third parties and then set this matter for a conference of counsel as soon as practicable.

SO ORDERED.

/s/ George Z. Singal
Chief United States District Judge

Dated this 27th day of June 2006.